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AUTHOR Dishaw, Marilyn
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ABSTRACT

This report provides descriptive data on allocated time in reading and mathematics for grades two and five as reported by a sample of California teachers participating in the Beginning Teacher Evaluation Study (BTES). The time covered in this report is the intertest period from December 1976 (B) and April 1977 (C). The study forms an addendum to previously published Technical Note IV-2a, which reported allocated time from October through December 1976 (A-B). Class means are provided on the amount of time accumulated over the B-C period in specific content categories. Daily means and the mean percent of total time allocated to specific content areas are presented in the form of tables. Teacher estimates of task difficulty are included with the data. (JD)

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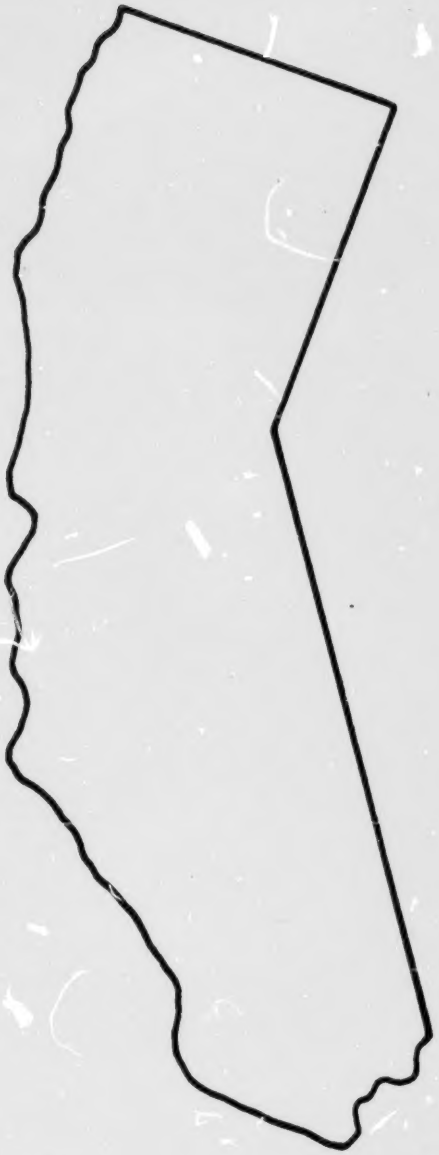

# BTES

## BEGINNING TEACHER EVALUATION STUDY

Technical Note Series

Technical Note IV-2b

DESCRIPTIONS OF ALLOCATED TIME TO CONTENT AREAS FOR THE B-C PERIOD

Marilyn Dishaw

August, 1977

FAR WEST LABORATORY
FOR EDUCATIONAL RESEARCH AND DEVELOPMENT
1855 FOLSOM STREET • SAN FRANCISCO, CALIFORNIA 94103 • (415) 565-3000

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# PREFACE

The Far West Laboratory conducts research for the California Commission for Teacher Preparation and Licensing through funds provided by the National Institute of Education. The Commission has responsibility for certifying teachers and teacher training programs in the State of California. The research that the Commission sponsors is designed to help them understand what teacher behaviors or instructional activities are beneficial for students. With a reliable knowledge base in this area the Commission and the institutions that train teachers would be better able to provide training experiences based on empirical findings relating teacher behavior to student achievement.

In previous years, under the Commission's sponsorship, the Beginning Teacher Evaluation Study has conducted empirical research on teaching which has led to the development of a "model" of elementary school classroom instruction. The central construct of the model is academic learning time which is defined as the time a student spends engaged in tasks of intermediate difficulty that are relevant to a defined content area. Briefly, the model states that student achievement in a particular content area is a function of student academic learning which is, in turn, a function of teacher behaviors and student entering characteristics. In this model, teacher behaviors are conceptualized in five functionally interrelated categories: diagnosis, prescription, presentation, monitoring, and feedback.

Phase IIIB of the BTES includes a large field study of this model applied to instruction and learning of reading and mathematics at grades 2 and 5. Data were collected during the 1976-77 academic year. Three major testing occasions were held in October, December, and May with a follow up session scheduled for September, 1977. These testing occasions are referred

to as occasions A, B, C, and D and serve to delimit major segments of the complete data set. Analyses will be reported for the A-B, B-C, and A-B-C-D periods. Within these periods, analyses will be carried out on the relationships between achievement and academic learning time and between academic learning time and teaching behaviors.

The allocation of time by teachers to various areas of reading and mathematics is an important element in the model. Allocated time, after adjustment for engagement, will be used as one estimate of academic learning time. Information on allocated time was collected via teacher logs. The Laboratory team that collected and processed these data was ably headed by Marilyn Dishaw. This technical note provides descriptive information on the allocation of instructional time within and across classes for the B-C period. Analogous information for the A-B period including complete documentation of the data gathering and quality control procedures is presented in Technical Note IV-2a.

These notes and others in the Phase III-B series are intended to present information on major data sources at several points in the analysis process. Subsequent notes will provide descriptive information on other data sources and report on relational analyses between elements of the model.

The log data represent a remarkable amount of work, especially on the part of teachers. Our thanks and appreciation go to each of them for this effort which is above and beyond their regular classroom responsibilities. The voluntary participation of many teachers and students in California schools makes this research possible.

Charles W. Fisher
Principal Investigator
Beginning Teacher Evaluation Study
August, 1977

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## Introduction

This report describes the distribution of allocated time by content areas in reading and mathematics at grades 2 and 5 as reported by teachers during Phase III-B of the Beginning Teacher Evaluation Study (BTES). This report covers the distribution of time within and across classes for the B-C period only. The B-C period is defined as the intertest period between the "B" (December, 1976) and "C" (April, 1977) administrations of the BTES achievement tests. The distribution of time for the A-B period (October through December, 1976) was discussed in Technical Note IV-2a (Dishaw, 1977). The instrumentation and implementation processes for obtaining these records of allocated time span the A-C period and were fully discussed in the first report. To find out what forms were used by the teachers, the procedures for their use and collection, the development and definition of the content categories, and the procedures for training, quality control, and data processing, please refer to Note IV-2a. Since this report is limited to the description of B-C time allocations and the B-C sample group it is presented as an addendum to Note IV-2a. It is recommended that these two reports be considered together.

## B-C Sample

Classes. The 25 second grade and 21 fifth grade classes which completed the A-B period remained in the study throughout the B-C period. Although the number of classes remained the same, in six cases the configuration of teachers involved with these classes changed. Among the second grade classes, two classroom teachers (Classes 18 and 24) were on leave for approximately six weeks each during the B-C period. In both classes the long term substitutes were trained in log keeping procedures by the BTES staff. Subsequently, the substitutes worked closely with their assigned field workers in submitting

log data during the absence of the primary teacher.

In the fifth grade, organizational changes occurred in two classes where there was a team teaching structure for reading instruction. Class 21 used a team teaching structure during the A-B period. During the B-C period the teaching team returned to a "self contained" structure and one of the original team members no longer taught the selected students. In Class 04 a slight variation in data collection procedure occurred. A teacher who provided supplementary instruction in social studies and spelling joined the study half-way through the B-C period. This teacher's instruction had previously been reported by the primary classroom teacher.

Teacher absences affected two additional fifth grade classes. Class 08 was affected throughout the B-C period by the absence of the regular teacher who was on sick leave. The long term substitute agreed to allow observation but did not assume log keeping responsibilities. Consequently the selected students were trained to submit instructional time data and showed a remarkable ability to handle that task efficiently. In Class 17 the teacher's absence occurred during April and instead of training the substitute the class was given the "C" test battery a week earlier than originally scheduled.

In any study involving a large number of people over an extended period of time unexpected situations are bound to occur. During the data collection period our main focus was on student data and every effort was made to obtain that data. Working with the replacement teachers we were able to document the allocated time pattern for each class throughout the B-C period.

Students. The B-C period began with 146 second grade and 127 fifth grade students. Attrition resulted in the loss of six second graders and four fifth graders providing B-C sample groups of 140 students at second grade and 123 students at the fifth grade level. Attrition was due to

students changing schools or long term absences which precluded "C" testing.

B-C Results

The distributions of allocated time for the B-C period are being reported in the same format as the A-B data (see Technical Note IV-2a, Dishaw, 1977). The first section presents data for individual students on allocation of time within classes. The three remaining sections present data aggregated to the class level. These sections cover total time over the B-C period, average daily time, and proportion of total time allocated to specific content categories. Within each section information for reading and mathematics at grades 2 and 5 is presented.

Allocation of Time Within Class. In this initial procedure allocated time for each student was aggregated for the B-C period. Difficulty coefficients and day tallies were summarized by student by class. That is, all the information obtained from the teacher logs was summed over the B-C period for each student. This represents our basic data set of allocated time at the student level. It is not practical in this technical note to include student data for each class and quadrant. Tables 1 through 4 provide the data for one student group (class) per quadrant. These classes were selected from the classes for which student data were presented in the A-B report (Dishaw, 1977). Reporting on the same classes provides the reader with a complete set of student data over the A-C period for one class per quadrant.

Table 1 contains the mathematics data gathered for the six second grade students who were followed in Class 15. The seven columns following the student ID numbers provide the day tallies or types of data days reported for these students. There were 85 weekdays in the B-C period for this class (and for the majority of our classes). Note that the B-C period was

nearly triple the length of the A-B period. Within the 85 weekdays Class 15 had 7 holidays leaving 75 school days as the number of potential instructional days. There are three types of "non-data days" that were considered as important sources of student and teacher variance. The most obvious reason for no data is student absenteeism and the column immediately following the number of school days states the number of days the student was absent. There were also days for which no log was received from the teacher. Such a day was categorized as a missing data day if we had reason to believe that instruction did occur and that the student was present. There were no missing data days for five of the six students in Class 15 as is shown under column 6 in Table 1. Finally, there were days during which the student was present but did not receive any instruction in mathematics (and/or reading). This would be a day for which we received a log stating: "Field Trip - No Math Today." The column labeled No Instruction provides the number of days that this occurred. Field trips, assemblies, special projects, etc. sometimes precluded the teaching of mathematics and/or reading. Most of the students in Class 15 had 3 days of no mathematics instruction.

The difference between the number of school days and the number of "non-data days" yields the number of data days (column 8, Table 1). This is the actual number of instructional days in the B-C period for which we received a record of allocated time and should be referred to when interpreting the amount of time accumulated by the student in the content areas. That is, for student 1 in Table 1 we have data on 73 days of instruction in mathematics. How many minutes does that yield and how were those minutes distributed?

The next fourteen columns in Table 1 give the amount of time in minutes that each student spent in each of the specific mathematics content categories.

Table 1

B-C Aggregated Data
Day Tallies, Time in Content, and Difficulty Percentages
Class 15 Grade 2 Mathematics

| | DAY TALLIES | | | | | | | TIME IN CONTENT | | | | | | | | | | | | | | DIFFICULTY | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Student | Days in B-C | Holidays | School Days | Days Absent | Missing Data Days | No Instruction | Data Days | Add/Subt. No Regroup Short Form | Add/Subt. No Regroup Instruct. Algorithm | Add/Subt. with Regroup Short Form | Add/Subt. with Regroup Instruct. Algorithm | Speed Tests | Other Computation | Computational Transfer | Place Value/Numerals | Word Problems | Money | Linear Measurement | Fractions | Developmental Activities | Other Concepts | Total Time | Percent Easy | Percent Partially Easy | Percent Hard | Percent Partially Hard | Percent Medium |
| 1 | 85 | 7 | 78 | 2 | 0 | 3 | 73 | 330 | 40 | 380 | 420 | 140 | 395 | 1565 | 170 | 25 | 0 | 0 | 0 | 10 | 0 | 3475 | 1 | 0 | 0 | 1 | 97 |
| 2 | 85 | 7 | 78 | 1 | 0 | 3 | 74 | 338 | 35 | 390 | 400 | 140 | 370 | 1510 | 330 | 25 | 0 | 0 | 0 | 0 | 0 | 3538 | 1 | 0 | 0 | 0 | 99 |
| 3 | 85 | 7 | 78 | 1 | 0 | 3 | 74 | 235 | 125 | 0 | 690 | 70 | 80 | 1545 | 785 | 0 | 0 | 0 | 0 | 270 | 50 | 3850 | 1 | 0 | 0 | 0 | 99 |
| 4 | 85 | 7 | 78 | 0 | 0 | 3 | 75 | 470 | 35 | 410 | 470 | 180 | 175 | 1710 | 100 | 25 | 0 | 0 | 0 | 0 | 0 | 3575 | 1 | 0 | 0 | 0 | 99 |
| 5 | 85 | 7 | 78 | 4 | 1 | 2 | 71 | 300 | 230 | 0 | 500 | 80 | 295 | 1620 | 0 | 0 | 0 | 0 | 0 | 445 | 50 | 3520 | 0 | 0 | 0 | 0 | 100 |
| 6 | 85 | 7 | 78 | 6 | 0 | 3 | 69 | 270 | 25 | 560 | 470 | 157 | 245 | 1508 | 40 | 25 | 0 | 0 | 0 | 0 | 0 | 3300 | 0 | 0 | 0 | 0 | 100 |

Table 2
B-C Aggregated Log Data
Day Tallies, Time in Content, and Difficulty Percentages
Class 3 Grade 2 Reading

TIME IN CONTENT

| | STUDENT 2 | 3 | 4 | 5 | 6 | |
|---|---|---|---|---|---|---|
| Single Consonants | 275 | 312 | 100 | 157 | 270 | |
| Consonant blends and digraphs | 180 | 140 | 159 | 102 | 336 | |
| Variant consonants (c or g) | 30 | 65 | 45 | 53 | 30 | |
| Short vowels | 162 | 70 | 55 | 85 | 150 | |
| Long vowels | 502 | 95 | 127 | 205 | 523 | |
| Other decoding | 249 | 172 | 225 | 237 | 404 | |
| Compound words | 65 | 35 | 0 | 35 | 55 | |
| Root words and affixes | 170 | 154 | 105 | 60 | 113 | |
| Syllables | 100 | 47 | 8 | 80 | 75 | |
| Synonyms | 0 | 62 | 20 | 30 | 0 | |
| Pronoun reference | 97 | 106 | 147 | 131 | 47 | |
| Other word meaning | 1058 | 526 | 420 | 1138 | 877 | |
| Understanding events | 105 | 291 | 343 | 397 | 139 | |
| Understanding relationships | 420 | 435 | 384 | 329 | 335 | |
| Identifying main ideas | 65 | 194 | 175 | 139 | 225 | |
| Other Comprehension | 173 | 234 | 157 | 227 | 165 | |
| Sight words (reading single words | 170 | 100 | 100 | 90 | 165 | |
| Oral reading of text | 231 | 323 | 247 | 243 | 261 | |
| Silent reading of text | 465 | 566 | 421 | 544 | 545 | |
| Reading in content areas | 295 | 475 | 335 | 500 | 310 | |
| Listening while reading | 80 | 110 | 125 | 80 | 60 | |
| Spelling (no specific decoding focus) | 20 | 0 | 0 | 10 | 10 | |
| Grammar | 190 | 170 | 172 | 172 | 160 | |
| Creative writing | 490 | 525 | 370 | 575 | 418 | |
| Study skills | 0 | 45 | 25 | 40 | 0 | |
| Other (copying, developmental) | 905 | 1025 | 565 | 1070 | 1085 | |
| Total Time | 6497 | 6277 | 4830 | 6729 | 6758 | |

| | STUDENT 2 | 3 | 4 | 5 | 6 | |
|---|---|---|---|---|---|---|
| DAY TALLIES | | | | | | |
| Days in B-C | 85 | 85 | 60 | 85 | 85 | |
| Holidays | 8 | 8 | 3 | 8 | 8 | |
| School Days | 77 | 77 | 57 | 77 | 77 | |
| Days Absent | 2 | 3 | 2 | 0 | 2 | |
| Missing Data | 4 | 4 | 3 | 4 | 4 | |
| No Instruction | 3 | 1 | 0 | 1 | 2 | |
| Data Days | 68 | 69 | 52 | 72 | 69 | |
| DIFFICULTY | | | | | | |
| Percent Easy | 0 | 0 | 0 | 0 | 0 | |
| Percent Partially Easy | 0 | 0 | 0 | 0 | 0 | |
| Percent Hard | 23 | 10 | 11 | 7 | 20 | |
| Percent Partially Hard | 0 | 0 | 1 | 1 | 0 | |
| Percent Medium | 77 | 89 | 87 | 91 | 79 | |

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Table 3
B-C Aggregated Log Data
Day Tallies, Time in Content, and Difficulty Percentages
for Class 12 in Grade 5 Mathematics

| | DAY TALLIES | | | | | | | TIME IN CONTENT | | | | | | | | | | | | | | | | DIFFICULTY | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Student | Days in B-C | Holidays | School Days | Days Absent | Missing Data Days | No Instruction | Data Days | Addition | Subtraction | Multiplication: Basic Facts | Speed Tests | Algorithm | Division | Fractions | Other Computation | Computational Transfer | Numberals/Place Value (whole No.) | Word Problems | Geometry: Perimeter | Area | Number Pairs | Lines or Figures | Other Concepts | Total Time | Percent Easy | Percent Partially Easy | Percent Hard | Percent Partially Hard | Percent Medium |
| 1 | 85 | 7 | 78 | 6 | 1 | 9 | 62 | 25 | 24 | 0 | 0 | 146 | 486 | 1436 | 10 | 262 | 26 | 96 | 0 | 0 | 0 | 0 | 0 | 2511 | 0 | 0 | 0 | 3 | 97 |
| 2 | 85 | 7 | 78 | 0 | 1 | 9 | 68 | 7 | 7 | 17 | 0 | 121 | 578 | 1479 | 0 | 378 | 32 | 34 | 0 | 0 | 0 | 0 | 17 | 2680 | 0 | 0 | 0 | 0 | 100 |
| 3 | 85 | 7 | 78 | 0 | 1 | 5 | 72 | 15 | 15 | 16 | 0 | 123 | 608 | 1590 | 0 | 342 | 43 | 95 | 0 | 0 | 0 | 0 | 20 | 2882 | 0 | 0 | 0 | 0 | 100 |
| 4 | 85 | 7 | 78 | 3 | 1 | 5 | 69 | 8 | 8 | 40 | 0 | 126 | 594 | 1575 | 10 | 285 | 26 | 9 | 35 | 35 | 40 | 46 | 10 | 2847 | 0 | 0 | 0 | 4 | 96 |
| 5 | 85 | 7 | 78 | 2 | 1 | 5 | 70 | 29 | 24 | 9 | 0 | 136 | 462 | 1492 | 10 | 392 | 44 | 54 | 0 | 0 | 0 | 0 | 20 | 2672 | 0 | 0 | 0 | 1 | 99 |
| 6 | 85 | 7 | 78 | 4 | 1 | 5 | 68 | 48 | 44 | 47 | 0 | 261 | 618 | 1177 | 10 | 507 | 74 | 23 | 0 | 0 | 0 | 0 | 12 | 2821 | 0 | 0 | 0 | 1 | 99 |

Table 4
B-C Aggregated Log Data
Day Tallies, Time in Content, and Difficulty Percentages
Class 5 Grade 5 Reading

| | | STUDENT | | | | | |
|---|---|---|---|---|---|---|---|
| | | 01 | 02 | 03 | 04 | 05 | 06 |
| TIME IN CONTENT | Root words and affixes | 125 | 140 | 125 | 135 | 125 | 75 |
| | Syllables | 70 | 65 | 80 | 65 | 70 | 70 |
| | Synonyms | 110 | 90 | 110 | 90 | 110 | 95 |
| | Pronoun reference | 15 | 15 | 15 | 15 | 15 | 15 |
| | Other word meaning | 535 | 485 | 470 | 510 | 535 | 415 |
| | Verbatim (no rephrasing) | 111 | 121 | 116 | 136 | 126 | 126 |
| | Translation (paraphrase) | 146 | 231 | 131 | 221 | 126 | 121 |
| | Inference/Synthesis | 51 | 131 | 31 | 131 | 51 | 6 |
| | Identifying main ideas | 356 | 406 | 331 | 406 | 366 | 281 |
| | Evaluation of fact and opinion | 116 | 181 | 96 | 196 | 126 | 106 |
| | Other comprehension | 210 | 240 | 215 | 255 | 260 | 260 |
| | Oral reading | 385 | 165 | 325 | 135 | 400 | 320 |
| | Silent reading | 1500 | 1565 | 1500 | 1590 | 1570 | 1325 |
| | Reading in content areas | 425 | 445 | 420 | 440 | 440 | 335 |
| | Spelling | 660 | 660 | 695 | 685 | 695 | 645 |
| | Grammar | 540 | 540 | 495 | 570 | 540 | 490 |
| | Creative writing | 140 | 160 | 160 | 130 | 160 | 105 |
| | Study skills | 245 | 230 | 230 | 245 | 260 | 205 |
| | Other | 515 | 535 | 525 | 530 | 535 | 455 |
| | Total Time | 6255 | 6070 | 6070 | 6485 | 6510 | 5450 |

| | | STUDENT | | | | | |
|---|---|---|---|---|---|---|---|
| | | 01 | 02 | 03 | 04 | 05 | 06 |
| DAY TALLIES | Days in B-C | 85 | 85 | 85 | 85 | 85 | 85 |
| | Holidays | 7 | 7 | 7 | 7 | 7 | 7 |
| | School Days | 78 | 78 | 78 | 78 | 78 | 78 |
| | Days Absent | 5 | 2 | 5 | 1 | 0 | 12 |
| | Missing Data | 0 | 0 | 0 | 0 | 0 | 0 |
| | No Instruction | 2 | 2 | 2 | 2 | 2 | 2 |
| | Data Days | 71 | 74 | 71 | 75 | 76 | 64 |
| DIFFICULTY | Percent Easy | 0 | 2 | 1 | 2 | 1 | 1 |
| | Percent Partially Easy | 0 | 0 | 0 | 0 | 0 | 0 |
| | Percent Hard | 1 | 0 | 0 | 0 | 1 | 1 |
| | Percent Partially Hard | 0 | 0 | 0 | 0 | 0 | 0 |
| | Percent Medium | 98 | 98 | 99 | 98 | 99 | 98 |

These content categories are the same, although the titles are somewhat abbreviated, as the categories used by the teachers on their daily logs. The report on A-B time distributions contains copies of the teacher logs and the glossaries which define the content categories. Following the specific content category entries in Table 1, is the total time in mathematics for each student during the B-C period. This total time is the sum of the time in each of the specific categories.

The final section of student data shown in Table 1 contains the coefficients of difficulty. Although the indications of difficulty were recorded by the teacher at the specific level we summed across specific content to get an estimate of difficulty for total time in mathematics (and reading). Therefore, the difficulty coefficients as shown in Table 1 represent the percentage of total time in mathematics that was considered by the teacher to be in each category of difficulty for that student.

Tables 2 through 4 present analagous student data for grade 2 reading, grade 5 mathematics and grade 5 reading, respectively. The grade 2 and 5 reading tables (Tables 2 and 4) are presented in a "vertical" format due to space limitations.

Allocation of Total B-C Time Across Classes. Class means were computed for time in each content category, day tallies, and difficulty coefficients. Tables 5 through 12 display these class means, rounded to the nearest whole number, by quadrant. Two Tables are presented for each quadrant. The first presents data on allocated time and the second provides the day tallies and difficulty percentages for each class in that quadrant. Allocated time in content for those classes which had two or more reading teachers were computed by summing the time across all sources of instruction and then computing the average for each student and finally the class mean for those students.

Table 5

Average Total Time in Minutes Per Pupil Class in Content Areas
for the B-C Period

Grade 2 Mathematics

| | | CLASSES | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LOG CONTENT AREAS | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| COMPUTATION | Add/Subt No Regrouping Standard Short Form 1 | 320 | 269 | 247 | 263 | 626 | 593 | 358 | 1265 | 738 | 341 | 658 | 316 | 372 | 274 | 324 | 201 | 171 | 477 | 687 | 1030 | 201 | 819 | 715 | 320 | 246 |
| | Add/Subt No Regrouping Instructional Algorithm 2 | 30 | 217 | 139 | 110 | [illegible] | 21 | | 111 | | 36 | | 31 | 557 | 155 | 82 | 20 | | 47 | 307 | 82 | 148 | | | 239 | 101 |
| | Add/Subt with Regrouping Standard Short Form 3 | | 309 | 354 | 3 | | 582 | 813 | 246 | 504 | 79 | 155 | 140 | 662 | 232 | 290 | 538 | | 157 | 231 | 845 | 335 | | 4 | 817 | 200 |
| | Add/Subt with Regrouping Instructional Algorithm 4 | 383 | 395 | 619 | 25 | 43 | 50 | 101 | 138 | 588 | 933 | 374 | 418 | 557 | 240 | 492 | | 782 | 357 | 495 | 71 | 448 | 26 | 113 | 52 | 601 |
| | Speed Tests 5 | 10 | | 269 | 49 | 176 | 62 | 17 | 48 | 33 | | | 10 | 60 | 10 | 128 | 36 | | 100 | 22 | 72 | 30 | 120 | 39 | 61 | 1 |
| | Other Computation 6 | | 8 | 37 | 220 | | | 1 | 68 | 87 | 140 | | 31 | 15 | 75 | 260 | | 40 | 141 | 10 | | 3 | 7 | 3 | | 362 |
| CONCEPTS/APPLICATION | Computational Transfer 7 | 315 | 113 | 358 | 536 | 313 | 381 | 294 | 393 | 301 | 536 | 842 | 553 | 90 | 651 | 1576 | 115 | 556 | 312 | 192 | 147 | 97 | 571 | 514 | 223 | 433 |
| | Place Value/Numerals 8 | 271 | 423 | 301 | 619 | 331 | 19 | 159 | 386 | 261 | 411 | 245 | 521 | 250 | 196 | 238 | 30 | 462 | 215 | 341 | 547 | 316 | 243 | 436 | 356 | 479 |
| | Word Problems 9 | 53 | 33 | 38 | 103 | 109 | 115 | 131 | 213 | 20 | 25 | 98 | 131 | 129 | 505 | 17 | 35 | 103 | 48 | 110 | 34 | 148 | 336 | 216 | 281 | 39 |
| | Money 10 | 280 | 5 | 6 | 19 | 98 | 99 | | 148 | 205 | 13 | 40 | 34 | 221 | 41 | | 234 | 114 | 24 | 6 | 127 | 9 | 189 | 153 | 202 | 8 |
| | Linear Measurement 11 | 99 | 118 | | 20 | | 42 | 5 | 100 | 30 | 55 | 17 | 74 | 195 | 280 | | | 107 | 39 | 4 | 40 | 130 | 77 | | 249 | 81 |
| | Fractions 12 | 55 | 33 | 145 | | | 1 | 314 | 63 | 85 | 107 | | 92 | 399 | 106 | | 15 | 58 | 126 | 4 | 55 | 21 | 62 | 8 | 70 | 130 |
| | Developmental Activities 13 | 25 | 75 | 75 | 65 | | 113 | | 111 | 12 | 10 | | 20 | 40 | 12 | 121 | 15 | | 35 | 30 | | 74 | 224 | 255 | 27 | 71 |
| | Other Concepts/ Application 14 | 47 | 387 | 387 | 101 | | 314 | 265 | 34 | 230 | 308 | 234 | 304 | 269 | 25 | 17 | 200 | 330 | 116 | 12 | 217 | 201 | 128 | 56 | 252 | 166 |
| | Total Time B-C | 1888 | 2396 | 2977 | 2132 | 1844 | 2399 | 2458 | 3319 | 3094 | 2993 | 2662 | 2664 | 3816 | 2801 | 3543 | 1439 | 2722 | 2191 | 2448 | 3267 | 2161 | 2800 | 2512 | 3149 | 3218 |
| | Mean Number of Data Days | 40 | 60 | 60 | 69 | 71 | 59 | 71 | 70 | 75 | 71 | 65 | 66 | 73 | 74 | 73 | 50 | 70 | 56 | 64 | 65 | 66 | 73 | 65 | 66 | 69 |
| | Average Time Per Day | 47 | 40 | 50 | 31 | 26 | 41 | 35 | 48 | 41 | 42 | 41 | 40 | 52 | 38 | 49 | 29 | 39 | 39 | 38 | 50 | 33 | 38 | 39 | 48 | 47 |

Table 6

Mean Day Tallies and Difficulty Percentages
Per Pupil Per Class for the B-C Period
in Grade 2 Mathematics

| | CLASSES | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY TALLIES | Days in B-C | 85 | 85 | 80 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 95 | 95 | 95 | 85 | 85 | 85 | 85 |
| | Holidays | 7 | 8 | 7 | 8 | 7 | 8 | 9 | 8 | 7 | 8 | 8 | 9 | 8 | 8 | 7 | 8 | 9 | 7 | 8 | 7 | 8 | 8 | 8 | 8 | 8 |
| | School Days | 78 | 77 | 73 | 77 | 78 | 77 | 76 | 77 | 78 | 77 | 77 | 76 | 77 | 77 | 78 | 77 | 76 | 78 | 87 | 88 | 87 | 77 | 77 | 77 | 77 |
| | Days Absent | 3 | 7 | 2 | 2 | 6 | 3 | 3 | 6 | 1 | 3 | 8 | 1 | 1 | 3 | 2 | 1 | 6 | 6 | 5 | 4 | 2 | 4 | 5 | 3 | 7 |
| | Missing Data | 5 | 2 | 4 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 1 | 0 | 0 | 5 | 0 |
| | No Instruction | 30 | 8 | [illegible] | 4 | 1 | 14 | 2 | 0 | 2 | 3 | 4 | 6 | 1 | 0 | 3 | 26 | 0 | 15 | 16 | 15 | 18 | 0 | 7 | 3 | 1 |
| | Data Days | 40 | 60 | 60 | 69 | 71 | 59 | 71 | 70 | 75 | 71 | 65 | 66 | 73 | 74 | 73 | 50 | 70 | 56 | 64 | 65 | 66 | 73 | 65 | 66 | 69 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIFFICULTY | Percent Easy | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 9 | 1 | [illegible] | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| | Percent Partially Easy | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Percent Hard | 4 | 10 | 20 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 6 | 0 | 5 | 1 | 0 | 0 | 3 | 6 | 0 | 2 | 1 | 1 | 0 | 3 | 5 |
| | Percent Partially Hard | 9 | 7 | 2 | 0 | 0 | 14 | 2 | 1 | 0 | 0 | 7 | 2 | 0 | 4 | 0 | 0 | 2 | 0 | 0 | 4 | [illegible] | 1 | 1 | 0 | 0 |
| | Percent Medium | 87 | 78 | 77 | 100 | 100 | 86 | 92 | 98 | 100 | 100 | 81 | 98 | 86 | 94 | 99 | 100 | 93 | 94 | 98 | 94 | 93 | 98 | 99 | 95 | 95 |

Table 7

Average Total Time in Minutes Per Pupil Per Class in Content Content Areas

for the B-C Period in Grade 2 Reading

| | LOG CONTENT AREAS | | CLASSES 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DECODING | Single consonants | 1 | 40 | 53 | 223 | 29 | 71 | 3 | 164 | 71 | * | 118 | 290 | 128 | 25 | 147 | 211 | 96 | 138 | 17 | | 21 | 82 | 89 | 156 | 71 | 91 |
| | Consonant blends & digraphs | 2 | 105 | 339 | 183 | 38 | 511 | 62 | 246 | 98 | 126 | 127 | 177 | 244 | 100 | 354 | 157 | 140 | 163 | 241 | 20 | 40 | 70 | 78 | 75 | 345 | 160 |
| | Variant consonants (c or g) | 3 | 12 | 42 | 45 | 6 | 12 | * | 46 | 31 | 159 | 43 | 55 | 26 | 19 | 46 | 26 | 1 | | 59 | 90 | 38 | 290 | 69 | 20 | 26 | 109 |
| | Short vowels | 4 | 162 | 87 | 104 | 75 | 212 | 709 | 109 | 53 | 10 | 109 | 182 | 268 | 170 | 460 | 404 | 63 | 108 | 180 | 217 | 92 | 310 | 73 | 132 | 103 | 126 |
| | Long vowels | 5 | 78 | 277 | 290 | 53 | 265 | 76 | 109 | 56 | 198 | 106 | 267 | 303 | | 136 | 440 | 81 | 336 | 119 | 228 | 105 | 98 | 45 | 69 | 81 | 124 |
| | Other decoding | 6 | 18 | 164 | 257 | 30 | 846 | * | 163 | 344 | 334 | 108 | 217 | 33 | 55 | 250 | 77 | 59 | 126 | 119 | 83 | 256 | 333 | 561 | 399 | 278 | 212 |
| WORD STRUCTURE | Compound words | 7 | 31 | 31 | 38 | 14 | 9 | | 99 | 18 | 65 | 35 | 65 | 152 | | 98 | 56 | 21 | 23 | 76 | | 156 | 167 | 199 | 80 | 162 | 140 |
| | Root words and affixes | 8 | 136 | 135 | 120 | 20 | 407 | 5 | 154 | 205 | 181 | 267 | 362 | 273 | 53 | 327 | 248 | 190 | 66 | 118 | | 167 | 328 | 143 | 98 | 80 | 266 |
| | Syllables | 9 | 33 | 3 | 62 | 50 | 24 | | 204 | 38 | 63 | 154 | 175 | 118 | 12 | 296 | 113 | 30 | 25 | 38 | | 54 | | 23 | 37 | 10 | 106 |
| WORD MEANING | Synonyms | 10 | 15 | 8 | 22 | | * | 25 | 105 | 34 | 70 | 17 | 88 | 27 | | 46 | 195 | | * | 16 | 30 | 30 | 30 | 164 | 87 | 125 | 9 |
| | Pronoun reference | 11 | 11 | 3 | 106 | 6 | 2 | | 12 | 33 | 25 | | | 33 | | 70 | 111 | | 20 | * | | | | | | | 19 |
| | Other word meaning | 12 | 454 | 139 | 804 | 9 | 391 | 29 | 914 | 415 | 865 | 292 | 824 | 119 | 104 | 104 | 403 | 287 | 354 | 580 | 588 | 224 | 216 | 374 | 571 | 424 | 202 |
| COMPREHENSION | Understanding events | 13 | 138 | 128 | 255 | 144 | 189 | 205 | 222 | 143 | 6 | 201 | 265 | 460 | 660 | 460 | 346 | 108 | 198 | 222 | 714 | 446 | 222 | 439 | 653 | 171 | 100 |
| | Understanding relationships | 14 | 302 | 134 | 381 | 76 | 70 | 240 | 164 | 105 | 14 | 174 | 143 | 90 | 77 | 393 | 240 | 23 | 212 | 213 | 559 | 65 | 231 | 61 | 62 | 52 | 114 |
| | Identifying main ideas | 15 | 59 | 22 | 160 | 55 | 20 | 74 | 66 | 285 | 4 | 227 | | 97 | 89 | 216 | 199 | 80 | 183 | 143 | 303 | 27 | 244 | 26 | 12 | 90 | 55 |
| | Other comprehension | 16 | 143 | 367 | 191 | 65 | 59 | 27 | 334 | 175 | 310 | 128 | 248 | 52 | 24 | 172 | 353 | 72 | 280 | 463 | 57 | 104 | 55 | 154 | 49 | 194 | 120 |
| READING PRACTICE | Sight words (reading single words) | 17 | 438 | 12 | 125 | 380 | 221 | 345 | 157 | 209 | 25 | 228 | 225 | 362 | 674 | 276 | 943 | 96 | 251 | 87 | 163 | 410 | 559 | 69 | 72 | 226 | 465 |
| | Oral reading of text | 18 | 307 | 447 | 261 | 117 | 466 | 779 | 371 | 217 | 562 | 821 | 374 | 564 | 759 | 188 | 296 | 241 | 648 | 688 | 275 | 472 | 18 | 287 | 325 | 710 | 961 |
| | Silent reading of text | 19 | 993 | 159 | 508 | 209 | 179 | 300 | 320 | 256 | 1089 | 1192 | 684 | 78 | 313 | 589 | 593 | 343 | 448 | 493 | 1119 | 1138 | 318 | 1488 | 911 | 628 | 116 |
| | Reading in content areas | 20 | 34 | 2 | 383 | | * | 4 | 539 | 88 | 35 | 145 | 282 | 15 | 206 | 776 | 222 | | | 29 | 20 | 92 | 248 | 12 | | 38 | 170 |
| | Listening while reading | 21 | 90 | 20 | 91 | 108 | 2 | 63 | 123 | 39 | 87 | 95 | 35 | 120 | 13 | 50 | 265 | | | 132 | 501 | 172 | 233 | 7 | 22 | 168 | 11 |
| READING RELATED | Spelling (no specific decoding focus) | 22 | 343 | 158 | 8 | 78 | 499 | 33 | 264 | 434 | 70 | 492 | 821 | 538 | 972 | 302 | 392 | 476 | 1079 | 531 | 232 | 362 | 68 | 180 | 26 | 512 | 398 |
| | Grammar | 23 | 353 | 352 | 173 | 15 | 61 | 158 | 643 | 330 | 219 | 75 | 432 | 367 | 655 | 733 | 80 | 116 | 1241 | 196 | 85 | 279 | 74 | 316 | 253 | 164 | 223 |
| | Creative writing | 24 | 991 | 720 | 476 | 78 | 428 | 345 | 810 | 226 | 212 | 124 | 741 | 147 | 733 | 240 | 169 | 507 | 363 | 383 | 700 | 567 | 325 | 612 | 442 | 693 | 353 |
| | Study skills | 25 | 182 | 374 | 22 | 82 | 47 | | 306 | 117 | 288 | 213 | 63 | 48 | 355 | 583 | 148 | | 346 | 251 | 30 | 88 | 177 | 345 | 422 | 289 | 591 |
| | Other (copying, developmental) | 26 | 1348 | 706 | 930 | 860 | 640 | 2607 | 1002 | 157 | 1310 | 429 | 623 | 443 | 891 | 1853 | 589 | 2301 | 824 | 990 | 1312 | 850 | 1230 | 555 | 619 | 748 | 271 |

* = Less than 1 minute

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Time B-C | 6810 | 4880 | 6218 | 2573 | 5627 | 6090 | 7646 | 4176 | 6727 | 5917 | 7635 | 5083 | 6959 | 9167 | 7182 | 5331 | 7855 | 6383 | 7323 | 6245 | 5924 | 6367 | 5611 | 6387 | 5511 | |
| Mean Number of Data Days | 70 | 68 | 66 | 71 | 72 | 73 | 71 | 69 | 77 | 72 | 69 | 72 | 73 | 74 | 70 | 73 | 69 | 70 | 76 | 74 | 77 | 73 | 71 | 68 | 70 | |
| Average Time Per Day | 98 | 72 | 94 | 36 | 78 | 83 | 107 | 61 | 88 | 82 | 110 | 71 | 96 | 125 | 102 | 74 | 114 | 92 | 97 | 84 | 77 | 87 | 79 | 93 | 79 | |

Table 8

Mean Day Tallies and Difficulty Percentages
Per Pupil Per Class for the B-C Period
in Grade 2 Reading

| | CLASSES | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY TALLIES | Days in B-C | 85 | 85 | 80 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 95 | 95 | 95 | 85 | 85 | 85 | 85 |
| | Holidays | 7 | 8 | 7 | 8 | 7 | 8 | 9 | 8 | 7 | 8 | 9 | 9 | 8 | 8 | 7 | 8 | 9 | 7 | 8 | 7 | 8 | 8 | 8 | 8 | 8 |
| | School Days | 78 | 77 | 73 | 77 | 78 | 77 | 76 | 77 | 78 | 77 | 76 | 76 | 77 | 77 | 78 | 77 | 76 | 78 | 87 | 88 | 87 | 77 | 77 | 77 | 77 |
| | Days Absent | 2 | 7 | 2 | 2 | 6 | 4 | 3 | 7 | 1 | 3 | 7 | 1 | 1 | 3 | 4 | 1 | 6 | 6 | 4 | 4 | 2 | 4 | 6 | 4 | 7 |
| | Missing Data | 5 | 1 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 4 | 1 | 0 | 0 | 5 | 0 |
| | No Instruction | 1 | 1 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 4 | 3 | 1 | 0 | 6 | 6 | 7 | 0 | 0 | 0 | 0 |
| | Data Days | 70 | 68 | 66 | 71 | 72 | 73 | 71 | 69 | 77 | 72 | 69 | 72 | 73 | 74 | 70 | 73 | 69 | 70 | 76 | 74 | 77 | 73 | 71 | 68 | 70 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIFFICULTY | Percent Easy | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Percent Partially Easy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Percent Hard | 1 | 2 | 14 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | Percent Partially Hard | 2 | 2 | 0 | 0 | 0 | 4 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 |
| | Percent Medium | 97 | 94 | 85 | 100 | 100 | 96 | 99 | 98 | 100 | 100 | 94 | 100 | 100 | 100 | 100 | 100 | 96 | 98 | 100 | 100 | 100 | 95 | 98 | 100 | 100 |

Table 9

Average Total Time in Minutes Per Pupil Per Class in Content Areas

for the B-C Period in Grade 5 Mathematics

| | LOG CONTENT AREAS | | CLASSES 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COMPUTATION | Addition | 1 | 78 | 20 | 155 | 51 | 225 | 115 | 42 | 40 | 18 | 22 | 85 | 20 | 106 | 21 | 18 | 14 | 24 | | 109 | | 83 |
| | Subtraction | 2 | 53 | 28 | 84 | 45 | 221 | 154 | 36 | 40 | 15 | 20 | 202 | 80 | 71 | 4 | 198 | 11 | 24 | | 86 | | 75 |
| | Multiplication: Basic Facts | 3 | 12 | 37 | 58 | | 31 | 2 | | | 21 | 22 | 11 | 78 | 8 | 69 | 703 | 21 | | 1 | 4 | | |
| | Speed Tests | 4 | 11 | 4 | 49 | 91 | 4 | 21 | | | 31 | | 8 | 60 | 116 | 24 | 33 | 13 | 10 | 25 | | 72 | |
| | Algorithm | 5 | 57 | 224 | 893 | 234 | 231 | 310 | 93 | 248 | 154 | 153 | 353 | 912 | 689 | 135 | 1065 | 1444 | 38 | 13 | 253 | 2 | 137 |
| | Division | 6 | 735 | 233 | 19 | 671 | 222 | 167 | 855 | 1245 | 548 | 558 | 1240 | 866 | 970 | 1298 | 965 | 308 | 128 | 26 | 732 | 479 | 271 |
| | Fractions | 7 | 443 | 54 | 370 | 1297 | 104 | 334 | 836 | 558 | 1199 | 1458 | 495 | 876 | 58 | 2016 | | 276 | 1488 | 777 | 46 | 760 | 1891 |
| | Other | 8 | 41 | | 46 | 7 | 245 | 57 | 10 | 50 | 15 | 10 | 213 | 20 | | | | 7 | 132 | 619 | 775 | | 227 |
| CONCEPTS/APPLICATION | Computational Transfer | 9 | 618 | | 24 | 242 | 35 | | 276 | 575 | 261 | 361 | 92 | 260 | | 10 | 100 | 13 | 35 | 104 | 45 | 104 | 134 |
| | Numerals/Place Value (whole numbers) | 10 | 1 | | | 27 | 8 | | 25 | 28 | 33 | | | | | | | 2 | 2 | 3 | | | 51 |
| | Word Problems | 11 | 70 | | | 657 | 307 | | 94 | | 65 | 52 | 294 | 115 | 24 | 3 | 978 | 51 | 284 | 20 | 326 | 169 | 77 |
| | Geometry: Perimeter | 12 | 30 | | 53 | 75 | 81 | | | | 11 | 6 | 24 | 55 | | | | 12 | 17 | | | 2 | 33 |
| | Area | 13 | 66 | | 103 | 90 | 11 | | | | 5 | 6 | 24 | 125 | | | | 15 | 4 | | | | 44 |
| | Number Pairs | 14 | 135 | | 40 | 50 | | | | | 5 | 7 | | | 5 | | | | | | | | 6 |
| | Lines or Figures | 15 | 164 | 418 | 81 | 20 | 15 | | | 440 | 60 | 8 | 28 | 40 | | 280 | 65 | | 48 | 40 | | 30 | 32 |
| | Other | 16 | 33 | 174 | 71 | 46 | 140 | 172 | 48 | 195 | 29 | 13 | 1368 | 15 | 203 | 40 | | 43 | 1097 | 1279 | 108 | | 262 |
| | Total Time B-C | | 2548 | 1191 | 2045 | 3601 | 1881 | 1334 | 2315 | 3418 | 2467 | 2735 | 4409 | 3522 | 2249 | 3901 | 4127 | 2229 | 3330 | 2907 | 2484 | 1618 | 3322 |
| | Mean Number of Data Days | | 72 | 55 | 71 | 71 | 52 | 55 | 68 | 71 | 65 | 68 | 72 | 75 | 52 | 69 | 76 | 35 | 65 | 45 | 47 | 41 | 74 |
| | Average Time Per Day | | 36 | 22 | 29 | 51 | 36 | 24 | 34 | 48 | 38 | 40 | 61 | 47 | 43 | 56 | 54 | 41 | 52 | 65 | 53 | 39 | 45 |

Table 10

Mean Day Tallies and Difficulty Percentages
Per Pupil Per Class for the B-C Period
in Grade 5 Mathematics

| | CLASSES | 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY TALLIES | Days in B-C | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 80 | 85 | 85 | 85 | 85 | 85 | 85 | 77 | 85 |
| | Holidays | 9 | 7 | 9 | 6 | 6 | 9 | 7 | 7 | 7 | 7 | 9 | 9 | 9 | 9 | 7 | 7 | 8 | 37 | 37 | 22 | 6 |
| | School Days | 76 | 78 | 76 | 79 | 79 | 76 | 78 | 78 | 78 | 78 | 76 | 76 | 71 | 76 | 78 | 78 | 77 | 48 | 48 | 55 | 79 |
| | Days Absent | 0 | 1 | 2 | 4 | 5 | 4 | 4 | 0 | 3 | 3 | 4 | 1 | 4 | 1 | 1 | 2 | 4 | 2 | 1 | 4 | 3 |
| | Missing Data | 0 | 4 | 2 | 1 | 12 | 14 | 0 | 0 | 1 | 1 | 0 | 0 | 14 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 2 |
| | No Instruction | 4 | 18 | 1 | 3 | 10 | 3 | 6 | 7 | 9 | 6 | 0 | 0 | 1 | 6 | 1 | 18 | 7 | 1 | 0 | 9 | 0 |
| | Data Days | 72 | 55 | 71 | 71 | 52 | 55 | 68 | 71 | 65 | 68 | 72 | 75 | 52 | 69 | 76 | 55 | 65 | 45 | 47 | 41 | 74 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIFFICULTY | Percent Easy | 0 | 0 | 0 | 3 | 0 | 0 | 29 | 1 | 0 | 0 | 4 | 0 | 5 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 6 |
| | Percent Partially Easy | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| | Percent Hard | 0 | 7 | 3 | 7 | 0 | 0 | 42 | 6 | 1 | 0 | 4 | 0 | 0 | 8 | 1 | 1 | 0 | 2 | 0 | 0 | 5 |
| | Percent Partially Hard | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 7 | 0 | 8 | 0 | 0 | 3 | 0 | 1 | 0 | 0 |
| | Percent Medium | 100 | 91 | 97 | 90 | 100 | 98 | 28 | 93 | 99 | 99 | 82 | 93 | 94 | 84 | 99 | 98 | 92 | 98 | 99 | 100 | 89 |

Table 11

Average Total Time in Minutes Per Pupil Per Class in Content Areas

for the B-C Period in Grade 5 Reading

| | LOG CONTENT AREAS | | CLASSES 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WORD STRUCTURE | Root words and affixes | 1 | 179 | 98 | 161 | 121 | 106 | 6 | 197 | 196 | 44 | 17 | 95 | 86 | 83 | 506 | | 177 | 108 | 29 | 85 | 22 | 189 |
| | Syllables | 2 | 35 | 60 | 4 | 70 | 103 | 20 | 198 | 210 | 54 | 24 | 470 | 196 | 49 | 125 | 25 | 57 | 121 | 86 | 127 | 30 | 141 |
| WORD MEANING | Synonyms | 3 | 95 | 32 | 39 | 101 | 82 | | | 1 | 10 | 6 | 10 | 63 | 37 | 50 | 20 | 118 | 2 | 31 | 56 | | 121 |
| | Pronoun reference | 4 | | | 203 | 15 | 42 | 9 | 6 | 14 | | | 126 | 42 | 10 | 3 | 10 | 2 | 55 | | 56 | | 31 |
| | Other word meaning | 5 | 363 | 683 | 244 | 492 | 286 | 221 | 748 | 726 | 862 | 627 | 1036 | 208 | 410 | 25 | 643 | 556 | 617 | 468 | 534 | 519 | 710 |
| COMPREHENSION | Verbatim (no rephrasing) | 6 | 140 | 258 | 12 | 123 | 27 | | 90 | 131 | 154 | 27 | 27 | 75 | 453 | 819 | 15 | 678 | 22 | 114 | 268 | 1 | 266 |
| | Translation (paraphras) | 7 | 92 | 149 | 24 | 163 | 18 | | 152 | 197 | 1212 | 59 | 805 | 168 | 365 | 89 | 1135 | 865 | 215 | 386 | 297 | 162 | 151 |
| | Inference/Synthesis | 8 | 156 | 179 | | 67 | 70 | 3 | 266 | 309 | 1225 | 340 | 182 | 88 | 279 | 232 | 165 | 714 | 175 | 15 | 248 | 181 | 380 |
| | Identifying main ideas | 9 | 153 | 163 | 210 | 358 | 349 | 2 | 446 | 487 | 744 | 4023 | 307 | 205 | 98 | 121 | 512 | 20 | 754 | 48 | 237 | 86 | 356 |
| | Evaluation of fact and opinion | 10 | 5 | | 35 | 137 | 56 | 25 | 61 | 43 | 53 | 132 | 5 | 40 | 7 | 48 | 5 | 1 | 4 | 28 | 39 | 39 | 126 |
| | Other comprehension | 11 | 135 | 325 | 354 | 240 | 32 | 407 | 304 | 245 | 1104 | 346 | 173 | 491 | 61 | 194 | 531 | 96 | 407 | 77 | 124 | 19 | 495 |
| READING PRACTICE | Oral reading | 12 | 464 | 45 | 194 | 288 | 121 | 9 | 234 | 142 | 763 | 277 | 796 | 330 | 361 | 391 | 133 | 576 | 50 | 67 | 182 | | 583 |
| | Silent reading | 13 | 785 | 545 | 1155 | 1508 | 980 | 696 | 960 | 986 | 753 | 426 | 1344 | 960 | 1435 | 1182 | 1391 | 1022 | 2696 | 1168 | 2231 | 943 | 1314 |
| | Reading in content areas | 14 | 342 | 167 | 1465 | 418 | 71 | 141 | 682 | 658 | 321 | 83 | 648 | 2333 | 59 | 207 | 385 | 821 | 950 | 53 | 194 | 112 | |
| READING RELATED | Spelling | 15 | 552 | 568 | 1491 | 673 | 617 | 774 | 1140 | 1268 | 512 | 1064 | 1670 | 637 | 1076 | 1424 | 1293 | 814 | 867 | 863 | 476 | 548 | 800 |
| | Grammar | 16 | 226 | 55 | 383 | 529 | 423 | 907 | 601 | 695 | 740 | 1329 | 1319 | 1029 | 192 | 172 | 973 | 756 | 177 | 251 | 405 | 34 | 1129 |
| | Creative writing | 17 | 56 | 258 | 582 | 143 | 168 | 313 | 216 | 258 | 82 | 279 | 110 | 160 | 245 | 650 | 273 | 34 | 166 | 244 | 304 | 159 | 578 |
| | Study skills | 18 | 434 | 623 | 309 | 236 | 105 | 56 | 334 | 410 | 214 | 314 | 303 | 144 | 206 | 794 | 300 | 454 | 248 | 221 | 81 | 16 | 410 |
| | Other | 19 | 207 | 437 | 1020 | 516 | 27 | 956 | 567 | 584 | 1116 | 1451 | 328 | 1872 | 1620 | 10 | 1546 | 504 | 699 | 459 | 126 | 512 | 759 |
| | Total Time B-C | | 4419 | 4644 | 7883 | 6196 | 3683 | 4545 | 7204 | 7565 | 9964 | 10822 | 9754 | 9123 | 7046 | 7042 | 9355 | 8264 | 8383 | 4608 | 6070 | 3383 | 8537 |
| | Mean Number of Data Days | | 74 | 72 | 71 | 72 | 50 | 58 | 71 | 74 | 70 | 73 | 73 | 75 | 53 | 75 | 78 | 72 | 68 | 46 | 47 | 49 | 72 |
| | Average Time Per Day | | 60 | 65 | 134 | 86 | 73 | 76 | 102 | 104 | 142 | 149 | 135 | 121 | 132 | 94 | 120 | 116 | 123 | 99 | 129 | 69 | 129 |

Table 12

Mean Day Tallies and Difficulty Percentages
Per Pupil Per Class for the B-C Period
in Grade 5 Reading

| | CLASSES | 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY TALLIES | Days in B-C | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 80 | 85 | 85 | 85 | 85 | 85 | 85 | 77 | 85 |
| | Holidays | 9 | 7 | 9 | 7 | 6 | 9 | 7 | 7 | 7 | 7 | 9 | 9 | 9 | 9 | 7 | 7 | 8 | 37 | 37 | 22 | 7 |
| | School Days | 76 | 78 | 76 | 78 | 79 | 76 | 78 | 78 | 78 | 78 | 76 | 76 | 71 | 76 | 78 | 78 | 77 | 48 | 48 | 55 | 78 |
| | Days Absent | 0 | 1 | 2 | 4 | 5 | 4 | 4 | 1 | 4 | 4 | 3 | 1 | 4 | 1 | 0 | 3 | 5 | 2 | 1 | 4 | 2 |
| | Missing Data | 1 | 2 | 2 | 0 | 10 | 14 | 2 | 2 | 2 | 1 | 0 | 0 | 14 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| | No Instruction | 1 | 3 | 1 | 2 | 14 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 2 |
| | Data Days | 74 | 72 | 71 | 72 | 50 | 58 | 71 | 74 | 70 | 73 | 73 | 75 | 53 | 75 | 78 | 72 | 68 | 46 | 47 | 49 | 72 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIFFICULTY | Percent Easy | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| | Percent Partially Easy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Percent Hard | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 2 |
| | Percent Partially Hard | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 |
| | Percent Medium | 100 | 100 | 98 | 98 | 100 | 100 | 97 | 96 | 100 | 100 | 97 | 100 | 100 | 100 | 100 | 100 | 96 | 100 | 96 | 100 | 97 |

These tables show how much time, on the average, a student in a particular class accumulated over the B-C period; how the time was distributed, and how it compares to that received by students in other classes. A wide range of time was found between classes within specific content categories. However, when interpreting these tables note that the number of data days are not equivalent across classes.

The variation among classes in the number of data days is delineated in Tables 6, 8, 10, and 12. At second grade (Tables 6 and 8) three classes had a B-C period of 95 days due to late "C" test administrations. The mean number of days for Class 03 was lowered to 80 days by the early "C" testing of one student. At fifth grade (Tables 10 and 12), Class 17 had a shorter B-C period due to an early "C" testing. Classes 24, 25, and 26 were from year-round schools and although only the last had a shorter B-C period all of them had a large number of holidays due to their vacation schedules.

Absenteeism, missing data, and "non-instructional" days were the major contributors to the variance in mean number of data days across classes. A summary of these entries by quadrant from Tables 6, 8, 10, and 12 is presented in Table 12-a.

Table 12-a

Total Absent, Missing, and Non-Instructional Days
Per Quadrant for the B-C Period

| | Grade 2 | | Grade 5 | |
|---|---|---|---|---|
| Quadrant | Math | Reading | Math | Reading |
| Days Absent | 94 | 97 | 53 | 55 |
| Missing Data | 33 | 31 | 56 | 56 |
| No-Instruction | 186 | 37 | 110 | 32 |

Interpreting these tallies in relation to the total number of school days per quadrant, the rate of missing data for second grade is slightly more than 1.5 percent whereas the rate of absenteeism is close to 5 percent. Absenteeism and missing data rates for fifth grade were approximately 3.5 percent each. The missing data rates for both grade levels were lower than those for the A-B period.

The number of "non-instructional" days in mathematics was considerable. At the second grade level nearly 10 percent of the potential instructional days were not utilized for the study of mathematics. Approximately 7 percent of the B-C school days for the fifth graders did not include the study of mathematics. In contrast only 2 percent of the days, for both grades, did not include any reading instruction.

When reviewing Tables 11 and 12 on grade 5 reading note that Classes 04, 09, 10, 11, and 27 had multiple reading teachers. Computing the day tallies and mean time per day for these classes was difficult since the mean across teachers can be easily skewed. This problem primarily affects Classes 04 and 27. Each of these classes had a teacher for whom the number of data days was markedly different from the other teachers. The teacher in Class 04 who joined the study half way through the B-C period had a mean of 29 data days whereas the primary teacher's mean was 71 days. One of the three team teachers (social studies) in Class 27 had over 20 "non-instructional" days due to movies and other "non-recordable" instruction. However, for the students in Class 27 very few days passed without their receiving instruction from either their reading or English/Spelling teachers. To be considered a non-instructional day for this class at least two of the three teachers had to submit logs stating "no reading instruction." Mean time per day is based on the number of data days per teacher and then summed across teachers

for a within class mean. This computational procedure affects the last three entries in Table 11. For Classes 04 and 27, the Total Time B-C divided by the Average Time Per Day yields a lower Mean Number of Data Days than is shown. The mean that is reported comes from Table 12 and reflects the actual number of Data Days for those classes.

The last sections of Tables 6, 8, 10, and 12 present data on the level of difficulty across classes as reported by the teachers. The final row in each table gives the percentage of total time in mathematics (reading) that was considered to be of medium difficulty by the teacher. This row can be used to identify the teachers who differentiated between difficulty levels. By comparing quadrants, note that there was greater differentiation in mathematics than in reading across grade levels. This same pattern was also evident during the A-B period.

Allocation of Daily Time Across Classes. Daily mean times were generated to form an equivalent base for comparing time in content across classes. Time in each content area for an individual student was divided by the number of data days for that student. Student daily means within class were used to compute a daily mean per pupil per class as shown in Tables 13 through 16. Although these data were computed with student means the result is approximately the same as dividing the class means from Tables 5, 7, 9, and 11 by the number of B-C data days for each class. These means and accompanying standard deviations represent an average student's day in each class. That is, on a day when instruction occurred how much time was spent and how was it allocated? As in the other tables, the means and standard deviations have been rounded to the nearest whole minute. Times less than 0.50 minutes has been notated with an asterisk.

Student daily means and ranges for each content area based on the total

Table 13

Average Time in Minutes Per Pupil Per Class Per Day
for the B-C Period in Grade 2 Mathematics

| | LOG CONTENT AREAS | CLASSES | | | | | | | | | | | | | | | | | | | | | | | | | Total Sample | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | $\bar{X}$ SD | Min | Max |
| COMPUTATION | Add/Subt No Regrouping Standard Short Form 1 | 8 (3) | 5 (2) | 4 (1) | 4 (1) | 9 (1) | 10 (2) | 5 (1) | 18 (3) | 10 (2) | 5 (*) | 10 (3) | 5 (*) | 5 (*) | 4 (*) | 4 (1) | 4 (*) | 2 (*) | 8 (2) | 11 (1) | 15 (7) | 3 (1) | 11 (1) | 11 (1) | 5 (1) | 4 (2) | 7 (4) | 1 | 25 |
| | Add/Subt No Regrouping Instructional Algorithm 2 | 1 (1) | 4 (1) | 2 (1) | 2 (*) | 2 (*) | * (*) | | 2 (1) | | 1 (*) | | * (*) | 8 (1) | 2 (*) | 1 (1) | * (*) | | 1 (1) | 5 (1) | 1 (*) | 2 (1) | | | 4 (*) | 1 (*) | 2 (2) | 0 | 8 |
| | Add/Subt With Regrouping Standard Short Form 3 | | 5 (1) | 6 (2) | * (*) | | 10 (2) | 11 (1) | 3 (2) | 7 (2) | 1 (*) | 2 (*) | 2 (*) | 9 (2) | 3 (*) | 4 (3) | 11 (*) | | 3 (2) | 4 (1) | 13 (6) | 5 (1) | | * (*) | 12 (1) | 7 (3) | 4 (4) | 0 | 20 |
| | Add/Subt With Regrouping Instructional Algorithm 4 | 9 (7) | 7 (1) | 10 (3) | * (*) | 1 (*) | 1 (*) | 1 (*) | 2 (1) | 8 (3) | 13 (*) | 6 (*) | 6 (*) | 8 (2) | 3 (*) | 7 (1) | | 11 (1) | 6 (2) | 8 (1) | 1 (*) | 7 (4) | * (*) | 2 (*) | 1 (*) | 5 (1) | 5 (4) | 0 | 18 |
| | Speed Tests 5 | * (*) | | 4 (1) | 1 (*) | 2 (*) | 1 (*) | * (*) | 1 (*) | * (*) | | | * (*) | 1 (*) | * (*) | 2 (1) | 1 (*) | | 2 (*) | * (*) | 1 (*) | * (*) | 2 (*) | 1 (*) | 1 (*) | * (*) | 1 (1) | 0 | 6 |
| | Other 6 | | * (*) | 1 (*) | 3 (*) | | | * (*) | 1 (*) | 1 (2) | 2 (*) | | * (*) | * (*) | 1 (*) | 4 (2) | | 1 (*) | 3 (1) | * (*) | | * (*) | * (*) | * (*) | | 5 (2) | 1 (1) | 0 | 7 |
| CONCEPTS/APPLICATION | Computational Transfer 7 | 8 (3) | 2 (*) | 6 (1) | 8 (1) | 4 (1) | 6 (1) | 4 (*) | 6 (1) | 4 (3) | 8 (*) | 13 (1) | 8 (*) | 1 (*) | 9 (*) | 22 (1) | 2 (*) | 8 (1) | 5 (3) | 3 (1) | 2 (1) | 1 (1) | 8 (2) | 8 (2) | 3 (1) | 6 (4) | 6 (4) | * | 23 |
| | Place Value/Numerals 8 | 7 (2) | 7 (2) | 5 (2) | 9 (1) | 5 (*) | * (*) | 2 (*) | 5 (1) | 3 (*) | 6 (*) | 4 (1) | 8 (*) | 3 (*) | 3 (*) | 3 (4) | 1 (*) | 7 (1) | 4 (1) | 5 (1) | 8 (2) | 5 (2) | 3 (*) | 7 (*) | 5 (*) | 7 (1) | 5 (2) | 0 | 11 |
| | Word Problems 9 | 1 (*) | 1 (*) | 1 (*) | 1 (*) | 2 (*) | 2 (*) | 2 (*) | 3 (2) | * (*) | * (*) | 2 (*) | 2 (*) | 2 (*) | 7 (*) | * (*) | 1 (*) | 1 (*) | 1 (*) | 2 (1) | 1 (*) | 2 (1) | 5 (1) | 3 (1) | 4 (*) | 1 (*) | 2 (2) | 0 | 7 |
| | Money 10 | 7 (1) | * (*) | * (*) | * (*) | 1 (*) | 2 (*) | | 2 (1) | 3 (*) | * (*) | 1 (*) | 1 (*) | 3 (*) | 1 (*) | | 5 (*) | 2 (*) | * (*) | * (*) | 2 (1) | * (*) | 3 (1) | 2 (1) | 3 (*) | * (*) | 1 (2) | 0 | 8 |
| | Linear Measurement 11 | 2 (*) | 2 (*) | | * (*) | | 1 (*) | * (*) | 1 (*) | * (*) | 1 (*) | * (*) | 1 (*) | 3 (*) | 4 (*) | | | 2 (*) | 1 (1) | * (*) | 1 (*) | 2 (2) | 1 (*) | | 4 (*) | 1 (*) | 1 (1) | 0 | 5 |
| | Fractions 12 | 1 (*) | 1 (*) | 2 (1) | | | * (*) | 4 (*) | 1 (*) | 1 (*) | 2 (*) | | 1 (*) | 5 (*) | 1 (*) | | * (*) | 1 (*) | 3 (*) | * (*) | 1 (2) | * (*) | 1 (*) | * (*) | 1 (*) | 2 (*) | 1 (1) | 0 | 6 |
| | Developmental Activities 13 | 1 (*) | 1 (*) | (1) | 1 (*) | | 2 (1) | | 2 (*) | * (*) | * (*) | | * (*) | 1 (*) | * (*) | 2 (3) | * (*) | | 1 (*) | * (*) | | 1 (*) | 3 (*) | 4 (1) | * (*) | 1 (1) | 1 (1) | 0 | 6 |
| | Other Concepts/ Application 14 | 1 (1) | 6 (1) | 7 (1) | 1 (1) | | 5 (1) | 4 (*) | * (*) | 3 (*) | 4 (*) | 4 (*) | 5 (*) | 4 (*) | * (*) | * (*) | 4 (*) | 5 (*) | 2 (1) | * (*) | 3 (1) | 3 (1) | 2 (*) | 1 (*) | 4 (*) | 2 (1) | 3 (2) | 0 | 8 |
| | Average Time Per Day | 47 (1) | 40 (2) | 50 (3) | 31 (2) | 26 (1) | 41 (3) | 35 (*) | 48 (1) | 41 (*) | 42 (*) | 41 (2) | 40 (1) | 52 (*) | 38 (*) | 49 (2) | 29 (*) | 39 (*) | 39 (2) | 38 (1) | 50 (1) | 33 (2) | 39 (1) | 39 (1) | 48 (1) | 47 (1) | 41 (7) | 25 | 54 |

( ) = Standard deviation

* = Less than .50 minutes

Table 14

Average Time in Minutes Per Pupil Per Class Per Day
for the B-C Period in Grade 2 Reading

CLASSES

| | LOG CONTENT AREAS | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | X̄ (SD) | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DECODING | Single consonants | 1 | 1 (1) | 1 (*) | 3 (1) | * (*) | 1 (*) | * (*) | 2 (1) | 1 (*) | * (*) | 2 (1) | 4 (1) | 2 (1) | * (*) | 2 (1) | 3 (1) | 1 (1) | 2 (1) | * (*) | | * (*) | 1 (1) | 1 (2) | 2 (1) | 1 (1) | 1 (*) | 1 (1) | 0 | 8 |
| | Consonant blends & digraphs | 2 | 2 (1) | 5 (1) | 3 (1) | 1 (*) | 7 (2) | 1 (1) | 3 (1) | 1 (*) | 2 (2) | 2 (1) | 3 (*) | 3 (1) | 1 (1) | 5 (*) | 2 (1) | 2 (2) | 2 (2) | 3 (1) | * (1) | 1 (*) | 1 (1) | 1 (*) | 1 (1) | 5 (1) | 2 (*) | 2 (2) | 0 | 9 |
| | Variant consonants (c or g) | 3 | * (*) | 1 (*) | 1 (*) | * (*) | * (*) | * (*) | 1 (*) | * (*) | 2 (2) | 1 (*) | 1 (*) | * (*) | * (*) | 1 (*) | * (1) | * (*) | | 1 (*) | 1 (2) | * (1) | * (*) | 1 (*) | * (1) | * (*) | 2 (*) | 1 (1) | 0 | 4 |
| | Short vowels | 4 | 2 (1) | 1 (1) | 2 (1) | 1 (1) | 3 (1) | 10 (2) | 2 (*) | 1 (*) | * (*) | 1 (1) | 3 (*) | 4 (1) | 2 (2) | 6 (1) | 6 (2) | 1 (1) | 2 (*) | 3 (*) | 3 (1) | 1 (1) | 4 (7) | 1 (1) | 2 (2) | 2 (*) | 2 (*) | 3 (3) | 0 | 17 |
| | Long vowels | 5 | 1 (*) | 4 (*) | 4 (3) | 1 (*) | 4 (1) | 1 (1) | 2 (*) | 1 (*) | 3 (5) | 1 (1) | 4 (*) | 4 (1) | | 2 (*) | 6 (2) | 1 (1) | 5 (1) | 2 (*) | 3 (1) | 1 (1) | 1 (1) | 1 (*) | 1 (1) | 1 (*) | 2 (*) | 2 (2) | 0 | 12 |
| | Other decoding | 6 | * (*) | 2 (*) | 4 (1) | * (*) | 12 (2) | * (*) | 2 (*) | 5 (1) | 4 (2) | 2 (*) | 3 (*) | * (*) | 1 (1) | 3 (1) | 1 (1) | 1 (*) | 2 (1) | 2 (*) | 1 (1) | 4 (3) | 4 (4) | 8 (*) | 6 (1) | 4 (1) | 3 (*) | 3 (3) | 0 | 14 |
| WORD STRUCTURE | Compound words | 7 | * (*) | * (*) | 1 (*) | * (*) | * (*) | | 1 (*) | * (*) | 1 (*) | * (*) | 1 (*) | 2 (*) | | 1 (*) | 1 (1) | * (*) | * (*) | 1 (*) | | 2 (2) | 2 (2) | 3 (*) | 1 (1) | 2 (*) | 2 (*) | 1 (1) | 0 | 4 |
| | Root words and affixes | 8 | 2 (1) | 2 (*) | 2 (1) | * (*) | 6 (1) | * (*) | 2 (1) | 3 (1) | 2 (1) | 4 (2) | 5 (*) | 4 (*) | 1 (*) | 4 (*) | 3 (3) | 3 (*) | 1 (1) | 2 (*) | | 2 (2) | 4 (4) | 2 (1) | 1 (*) | 1 (1) | 4 (*) | 2 (2) | 0 | 10 |
| | Syllables | 9 | * (*) | * (*) | 1 (1) | * (*) | * (*) | | 3 (1) | 1 (*) | 1 (1) | 2 (*) | 3 (*) | 2 (*) | * (*) | 4 (*) | 2 (1) | * (*) | * (*) | 1 (*) | | 1 (1) | | * (*) | * (*) | * (*) | 2 (*) | 1 (1) | 0 | 4 |
| WORD MEANING | Synonyms | 10 | * (*) | * (*) | * (*) | | * (*) | * (*) | 1 (*) | * (*) | 1 (1) | * (*) | 1 (*) | * (*) | | 1 (*) | 3 (3) | | * (*) | * (*) | * (*) | * (*) | * (*) | 2 (1) | 1 (*) | 2 (*) | * (*) | 1 (1) | 0 | 8 |
| | Pronoun reference | 11 | * (*) | * (*) | 2 (1) | * (*) | * (*) | | * (*) | * (*) | * (1) | | | * (*) | | 1 (*) | 2 (3) | | * (1) | * (*) | | | | | | | * (*) | * (1) | 0 | 8 |
| | Other word meaning | 12 | 7 (1) | 2 (*) | 12 (4) | * (*) | 5 (1) | * (*) | 13 (1) | 6 (*) | 11 (3) | 4 (1) | 12 (*) | 2 (*) | 1 (*) | 1 (*) | 6 (2) | 4 (1) | 5 (1) | 8 (1) | 8 (2) | 3 (1) | 3 (1) | 5 (1) | 8 (1) | 6 (*) | 3 (*) | 5 (4) | 0 | 16 |
| COMPREHENSION | Understanding events | 13 | 2 (1) | 2 (*) | 4 (2) | 2 (1) | 3 (*) | 3 (1) | 3 (1) | 2 (1) | * (*) | 3 (1) | 4 (*) | 6 (*) | 9 (1) | 6 (*) | 5 (1) | 1 (1) | 3 (1) | 3 (1) | 9 (3) | 6 (*) | 3 (1) | 6 (2) | 9 (4) | 2 (1) | 1 (*) | 4 (3) | 0 | 14 |
| | Understanding relationships | 14 | 4 (1) | 2 (1) | 6 (1) | 1 (*) | 1 (*) | 3 (1) | 2 (*) | 2 (1) | * (*) | 2 (1) | 2 (*) | 1 (*) | 1 (2) | 5 (*) | 3 (1) | * (*) | 3 (1) | 3 (1) | 7 (4) | 1 (1) | 3 (*) | 1 (*) | 1 (1) | 1 (1) | 2 (*) | 2 (2) | 0 | 14 |
| | Identifying main ideas | 15 | 1 (*) | * (*) | 2 (1) | 1 (*) | * (*) | 1 (*) | 1 (*) | 4 (*) | * (*) | 3 (2) | | 1 (*) | 1 (2) | 3 (1) | 3 (1) | 1 (*) | 3 (1) | 2 (1) | 4 (3) | * (*) | 3 (1) | * (*) | * (*) | 1 (1) | 1 (*) | 2 (2) | 0 | 8 |
| | Other comprehension | 16 | 2 (1) | 5 (1) | 3 (*) | 1 (*) | 1 (*) | * (*) | 5 (1) | 3 (1) | 4 (1) | 2 (1) | 4 (*) | 1 (*) | * (*) | 2 (*) | 5 (1) | 1 (*) | 4 (4) | 7 (*) | 1 (*) | 1 (*) | 1 (*) | 2 (1) | 1 (1) | 3 (*) | 2 (*) | 2 (2) | 0 | 11 |
| READING PRACTICE | Sight words (reading single words) | 17 | 6 (2) | * (*) | 2 (1) | 5 (2) | 3 (*) | 5 (3) | 2 (*) | 3 (*) | * (*) | 3 (1) | 3 (*) | 5 (*) | 9 (5) | 4 (1) | 13 (1) | 1 (*) | 4 (1) | 1 (*) | 2 (2) | 6 (4) | 7 (3) | 1 (*) | 1 (1) | 3 (*) | 7 (1) | 4 (3) | 0 | 16 |
| | Oral reading of text | 18 | 4 (1) | 7 (1) | 4 (1) | 2 (*) | 6 (*) | 11 (2) | 5 (*) | 3 (1) | 13 (2) | 11 (3) | 5 (*) | 8 (*) | 10 (3) | 3 (*) | 4 (1) | 3 (1) | 10 (1) | 10 (2) | 4 (*) | 6 (1) | * (*) | 4 (1) | 5 (3) | 10 (3) | 14 (1) | 6 (4) | * | 15 |
| | Silent reading of text | 19 | 14 (1) | 2 (1) | 8 (1) | 3 (1) | 2 (1) | 4 (2) | 4 (*) | 4 (1) | 14 (2) | 17 (3) | 10 (*) | 1 (1) | 4 (1) | 8 (*) | 8 (1) | 5 (1) | 6 (1) | 7 (1) | 15 (*) | 15 (1) | 4 (2) | 20 (5) | 13 (2) | 9 (1) | 2 (*) | 8 (6) | 1 | 24 |
| | Reading in content areas | 20 | * (*) | * (*) | 6 (1) | | * (*) | * (*) | 8 (*) | 1 (*) | * (*) | 2 (*) | 4 (*) | * (*) | 3 (*) | 11 (*) | 3 (1) | | 6 (*) | * (*) | * (*) | 1 (*) | 3 (1) | * (*) | | 1 (*) | 2 (*) | 2 (3) | 0 | 11 |
| | Listening while reading | 21 | 1 (*) | * (*) | 1 (1) | 2 (*) | * (*) | 1 (*) | 2 (*) | 1 (*) | 1 (*) | 1 (*) | 1 (*) | 2 (*) | * (*) | 1 (*) | 4 (2) | | | 2 (*) | 7 (1) | 2 (*) | 3 (*) | * (*) | * (*) | 2 (*) | * (*) | 1 (2) | 0 | 8 |
| READING RELATED | Spelling (no specific decoding focus) | 22 | 5 (*) | 2 (*) | * (*) | 1 (*) | 7 (1) | * (*) | 4 (*) | 6 (1) | 1 (*) | 7 (*) | 12 (1) | 8 (*) | 13 (*) | 4 (*) | 6 (2) | 7 (*) | 15 (*) | 8 (*) | 3 (1) | 5 (1) | 1 (*) | 2 (*) | * (*) | 7 (1) | 6 (*) | 5 (4) | 0 | 16 |
| | Grammar | 23 | 5 (*) | 5 (1) | 3 (*) | * (*) | 1 (*) | 2 (*) | 9 (1) | 5 (2) | 3 (1) | 1 (*) | 6 (1) | 5 (*) | 9 (*) | 10 (*) | 1 (*) | 2 (1) | 18 (1) | 3 (1) | 1 (*) | 4 (3) | 1 (*) | 4 (1) | 4 (1) | 2 (*) | 3 (*) | 4 (4) | 0 | 19 |
| | Creative writing | 24 | 14 (1) | 11 (11) | 7 (1) | 1 (*) | 6 (1) | 5 (*) | 11 (*) | 3 (1) | 3 (*) | 2 (*) | 11 (1) | 2 (*) | 10 (*) | 3 (*) | 2 (1) | 7 (*) | 5 (*) | 5 (*) | 9 (*) | 8 (2) | 4 (*) | 8 (*) | 6 (1) | 10 (*) | 5 (1) | 6 (4) | 0 | 16 |
| | Study skills | 25 | 3 (*) | 5 (1) | * (*) | 1 (*) | 1 (1) | | 4 (1) | 2 (1) | 4 (*) | 3 (*) | 1 (*) | 1 (*) | 5 (*) | 8 (1) | 2 (1) | | 5 (*) | 4 (1) | * (*) | 1 (*) | 2 (1) | 5 (*) | 6 (1) | 4 (*) | 9 (1) | 3 (2) | 0 | 10 |
| | Other (copying, developmental) | 26 | 19 (*) | 10 (2) | 14 (2) | 12 (1) | 9 (1) | 35 (1) | 14 (1) | 2 (1) | 17 (*) | 6 (*) | 9 (*) | 6 (*) | 12 (*) | 25 (1) | 8 (2) | 32 (1) | 12 (1) | 14 (1) | 17 (1) | 11 (*) | 16 (*) | 8 (1) | 9 (1) | 11 (1) | 4 (*) | 13 (8) | 1 | 37 |
| | Average Time Per Day | | 98 (1) | 72 (2) | 94 (3) | 36 (2) | 78 (4) | 83 (1) | 107 (*) | 61 (2) | 88 (1) | 82 (2) | 110 (1) | 71 (4) | 96 (1) | 125 (*) | 102 (3) | 74 (2) | 114 (*) | 92 (2) | 97 (2) | 84 (2) | 77 (2) | 87 (1) | 79 (5) | 93 (4) | 79 (1) | 88 (18) | 35 | 126 |

( ) = Standard deviation

* = Less than .50 minutes

Table 15

Average Time in Minutes Per Pupil Per Class Per Day
for the B-C Period in Grade 5 Mathematics

CLASSES

| | LOG CONTENT AREAS | | 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 | $\bar{X}$ (SD) | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COMPUTATION | Addition | 1 | 1 (*) | * (*) | 2 (1) | 1 (*) | 4 (*) | 2 (1) | 1 (*) | 1 (*) | * (*) | * (*) | 1 (*) | * (*) | 2 (2) | * (*) | * (*) | * (*) | * (*) | | 2 (*) | | 1 (*) | 1 (1) | 0 | 7 |
| | Subtraction | 2 | 1 (*) | * (*) | 1 (*) | 1 (*) | 4 (*) | 3 (1) | 1 (*) | 1 (*) | * (*) | * (*) | 3 (*) | 1 (1) | 1 (2) | * (*) | 3 (*) | * (*) | * (*) | | 2 (*) | | 1 (*) | 1 (1) | 0 | 6 |
| | Multiplication: Basic Facts | 3 | * (*) | 1 (*) | 1 (*) | | 1 (*) | * (*) | | | * (*) | * (*) | * (*) | 1 (2) | * (*) | 1 (2) | 9 (*) | * (1) | | * (*) | * (*) | | | 1 (2) | 0 | 9 |
| | Speed Tests | 4 | * (*) | * (*) | 1 (*) | 1 (*) | * (*) | * (*) | | | * (*) | | * (*) | 1 (*) | 2 (*) | * (1) | * (*) | * (*) | * (*) | 1 (*) | | 2 (*) | | * (1) | 0 | 3 |
| | Algorithm | 5 | 1 (*) | 4 (2) | 12 (*) | 3 (1) | 4 (*) | 6 (1) | 1 (1) | 4 (1) | 2 (1) | 2 (1) | 5 (2) | 12 (2) | 13 (12) | 2 (2) | 14 (*) | 27 (2) | 1 (*) | * (1) | 5 (*) | * (*) | 2 (*) | 6 (8) | 0 | 30 |
| | Division | 6 | 10 (1) | 4 (2) | * (*) | 10 (1) | 4 (*) | 3 (1) | 13 (4) | 18 (6) | 8 (2) | 8 (1) | 17 (3) | 12 (1) | 18 (8) | 19 (17) | 13 (*) | 6 (2) | 2 (1) | 1 (1) | 16 (1) | 12 (11) | 4 (*) | 9 (8) | 0 | 43 |
| | Fractions | 7 | 6 (*) | 1 (1) | 5 (1) | 18 (3) | 2 (1) | 6 (2) | 12 (4) | 8 (3) | 18 (3) | 21 (2) | 7 (*) | 12 (1) | 1 (3) | 29 (22) | | 5 (2) | 23 (1) | 18 (16) | 1 (1) | 18 (17) | 25 (*) | 11 (11) | 0 | 44 |
| | Other | 8 | 1 (*) | | 1 (1) | * (*) | 5 (2) | 1 (1) | * (*) | 1 (*) | * (*) | * (*) | 3 (1) | * (*) | | | | * (*) | 2 (*) | 14 (8) | 17 (1) | | 3 (*) | 2 (5) | 0 | 24 |
| CONCEPTS/APPLICATION | Computational Transfer | 9 | 9 (*) | | 7 (*) | 3 (1) | 1 (1) | | 4 (1) | 8 (1) | 4 (1) | 5 (1) | * (*) | 3 (*) | | * (*) | 1 (*) | * (*) | 1 (*) | 2 (2) | 1 (*) | 3 (3) | 2 (*) | 2 (3) | 0 | 9 |
| | Numerals/Place Value (whole numbers) | 10 | * (*) | | | * (*) | * (*) | | * (*) | * (*) | 1 (*) | 1 (*) | * (*) | | | | | * (*) | * (*) | * (*) | | | 1 (*) | * (*) | 0 | 1 |
| | Word Problems | 11 | * (*) | | | 9 (*) | 6 (1) | | 1 (*) | | 1 (1) | 1 (1) | 4 (*) | 2 (*) | * (1) | * (*) | 13 (*) | 1 (2) | 4 (1) | * (*) | 7 (1) | 4 (3) | 1 (1) | 3 (4) | 0 | 13 |
| | Geometry: Perimeter | 12 | * (*) | | 1 (*) | 1 (*) | 2 (1) | | | | * (*) | * (*) | * (*) | 1 (*) | | | | * (*) | * (*) | | | * (*) | * (*) | * (*) | 0 | 3 |
| | Area | 13 | 1 (*) | | 1 (*) | 1 (*) | * (*) | | | | * (*) | * (*) | * (*) | 2 (*) | | | | * (*) | * (*) | | | | 1 (*) | * (1) | 0 | 2 |
| | Number Pairs | 14 | 2 (*) | | 1 (*) | 1 (*) | | | | | * (*) | * (*) | | | * (*) | | | | | | | | * (*) | * (*) | 0 | 2 |
| | Lines or Figures | 15 | 2 (*) | 8 (*) | 1 (*) | * (*) | * (1) | | | 6 (2) | 1 (2) | * (*) | * (*) | 1 (*) | | 4 (*) | 1 (*) | | 1 (*) | 1 (1) | | 1 (*) | * (*) | 1 (2) | 0 | 8 |
| | Other | 16 | * (*) | 3 (1) | 1 (*) | 1 (*) | 3 (3) | 3 (1) | 1 (*) | 3 (1) | * (1) | * (*) | 19 (*) | * (*) | 4 (4) | 1 (*) | | 1 (1) | 17 (1) | 28 (10) | 2 (*) | | 4 (*) | 4 (8) | 0 | 45 |
| | Average Time Per Day | | 36 (*) | 22 (1) | 29 (1) | 51 (1) | 36 (2) | 24 (5) | 34 (9) | 48 (1) | 38 (2) | 40 (1) | 61 (1) | 47 (2) | 43 (3) | 56 (*) | 54 (*) | 41 (3) | 52 (3) | 65 (6) | 53 (1) | 39 (14) | 45 (1) | 44 (12) | 18 | 72 |

( ) = Standard deviation

* = Less than 0.50 minutes

Table 16

Average Time in Minutes Per Pupil Per Class Per Day

for the B-C Period in Grade 5 Reading

CLASSES

| | LOG CONTENT AREAS | | 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 | $\bar{X}$ SD | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WORD STRUCTURE | Root words and affixes | 1 | 2 (*) | 1 (*) | 3 (*) | 2 (*) | 2 (*) | * (*) | 3 (*) | 3 (*) | 1 (*) | * (*) | 1 (*) | 1 (*) | 2 (1) | 7 (1) | | 2 (1) | 2 (*) | 1 (*) | 2 (*) | * (*) | 3 (*) | 2 (1) | 0 | 8 |
| | Syllables | 2 | * (*) | 1 (*) | * (*) | 1 (*) | 2 (1) | * (*) | 3 (*) | 3 (*) | 1 (*) | * (1) | 7 (*) | 3 (1) | 1 (*) | 2 (*) | * (*) | 1 (*) | 2 (*) | 2 (1) | 3 (*) | 1 (*) | 2 (*) | 2 (1) | 0 | 7 |
| WORD MEANING | Synonyms | 3 | 1 (*) | * (*) | 1 (*) | 1 (*) | 2 (*) | | | * (*) | * (*) | * (*) | * (*) | 1 (*) | 1 (*) | 1 (*) | * (*) | 2 (1) | * (*) | 1 (*) | 1 (*) | | 2 (*) | 1 (1) | 0 | 3 |
| | Pronoun reference | 4 | | | 3 (*) | * (*) | 1 (*) | * (*) | * (*) | * (*) | | | 2 (*) | 1 (*) | * (*) | * (*) | * (*) | * (*) | 1 (*) | | 1 (*) | | * (*) | * (1) | 0 | 3 |
| | Other word meaning | 5 | 5 (*) | 10 (*) | 5 (1) | 7 (*) | 6 (1) | 4 (3) | 10 (1) | 10 (1) | 12 (2) | 9 (1) | 14 (1) | 3 (*) | 3 (1) | * (*) | 8 (*) | 8 (2) | 9 (2) | 10 (3) | 11 (1) | 11 (3) | 11 (1) | 8 (4) | * | 16 |
| COMPREHENSION | Verbatim (no rephrasing) | 6 | 2 (*) | 4 (*) | * (*) | 2 (*) | 1 (*) | | 1 (*) | 2 (*) | 2 (1) | * (*) | * (*) | 1 (*) | 8 (2) | 11 (1) | * (*) | 9 (6) | 1 (*) | 2 (1) | 6 (1) | * (*) | 4 (*) | 3 (4) | 0 | 15 |
| | Translation (paraphras) | 7 | 1 (*) | 2 (*) | * (*) | 2 (1) | * (*) | | 2 (*) | 3 (*) | 17 (3) | 1 (1) | 11 (1) | 2 (1) | 7 (2) | 1 (*) | 15 (*) | 12 (2) | 3 (*) | 8 (2) | 6 (*) | 3 (1) | 2 (*) | 5 (5) | 0 | 21 |
| | Inference/Synthesis | 8 | 2 (*) | 3 (*) | | 1 (1) | 1 (*) | * (*) | 4 (1) | 4 (*) | 17 (3) | 5 (1) | 3 (*) | 1 (1) | 5 (2) | 3 (*) | 2 (*) | 10 (6) | 3 (*) | * (*) | 5 (*) | 4 (2) | 6 (*) | 4 (4) | 0 | 22 |
| | Identifying main ideas | 9 | 2 (*) | 2 (*) | 4 (1) | 5 (*) | 7 (*) | * (*) | 7 (1) | 7 (1) | 11 (3) | 55 (5) | 4 (1) | 3 (*) | 2 (1) | 2 (*) | 7 (*) | * (*) | 11 (1) | 1 (*) | 5 (*) | 2 (1) | 6 (*) | 7 (12) | 0 | 64 |
| | Evaluation of fact and opinion | 10 | * (*) | | 1 (*) | 2 (*) | 1 (*) | * (1) | 1 (*) | 1 (*) | 1 (*) | 2 (*) | * (*) | 1 (*) | * (*) | 1 (*) | * (*) | * (*) | * (*) | 1 (*) | 1 (*) | 1 (1) | 2 (*) | 1 (1) | 0 | 3 |
| | Other comprehension | 11 | 2 (*) | 5 (*) | 5 (1) | 3 (*) | 1 (*) | 7 (6) | 4 (*) | 4 (*) | 16 (1) | 5 (2) | 2 (1) | 7 (*) | 1 (*) | 3 (1) | 7 (1) | 1 (2) | 6 (1) | 2 (*) | 3 (*) | * (*) | 7 (*) | 4 (4) | 0 | 17 |
| READING PRACTICE | Oral reading | 12 | 6 (*) | 1 (*) | 4 (1) | 4 (2) | 2 (4) | * (*) | 3 (*) | 2 (*) | 11 (1) | 4 (1) | 11 (1) | 4 (*) | 7 (6) | 5 (1) | 2 (*) | 8 (3) | 1 (*) | 1 (1) | 4 (*) | | 10 (*) | 4 (4) | 0 | 18 |
| | Silent reading | 13 | 11 (*) | 8 (1) | 20 (1) | 21 (*) | 20 (1) | 12 (4) | 13 (*) | 13 (*) | 11 (1) | 6 (2) | 19 (1) | 13 (*) | 27 (5) | 16 (1) | 18 (*) | 14 (2) | 40 (4) | 25 (2) | 47 (1) | 19 (5) | 21 (1) | 18 (10) | 3 | 48 |
| | Reading in content areas | 14 | 5 (*) | 2 (*) | 25 (2) | 6 (*) | 1 (1) | 2 (2) | 11 (1) | 10 (*) | 4 (1) | 1 (*) | 9 (1) | 31 (*) | 1 (*) | 3 (*) | 5 (*) | 12 (6) | 14 (1) | 1 (*) | 4 (*) | 2 (*) | | 7 (8) | 0 | 31 |
| READING RELATED | Spelling | 15 | 8 (*) | 8 (1) | 29 (1) | 9 (*) | 12 (1) | 13 (3) | 16 (2) | 17 (2) | 7 (1) | 15 (5) | 23 (3) | 8 (*) | 20 (3) | 19 (*) | 17 (*) | 12 (5) | 13 (*) | 19 (3) | 10 (*) | 11 (3) | 11 (1) | 14 (6) | 7 | 30 |
| | Grammar | 16 | 3 (*) | 1 (*) | 5 (*) | 7 (*) | 8 (1) | 15 (5) | 8 (2) | 9 (2) | 10 (2) | 18 (1) | 18 (1) | 14 (*) | 4 (1) | 2 (1) | 13 (*) | 11 (3) | 3 (*) | 5 (2) | 9 (*) | 1 (*) | 16 (*) | 9 (6) | * | 24 |
| | Creative writing | 17 | 1 (*) | 4 (1) | 9 (1) | 2 (*) | 3 (*) | 5 (2) | 3 (*) | 3 (*) | 1 (1) | 4 (1) | 2 (1) | 2 (*) | 5 (1) | 9 (*) | 4 (*) | * (*) | 2 (*) | 5 (1) | 6 (*) | 3 (2) | 9 (*) | 4 (3) | 0 | 11 |
| | Study skills | 18 | 6 (*) | 9 (1) | 6 (1) | 3 (*) | 2 (*) | 1 (1) | 4 (*) | 5 (1) | 3 (3) | 4 (2) | 4 (1) | 2 (*) | 4 (2) | 11 (2) | 4 (*) | 6 (1) | 4 (1) | 5 (1) | 2 (*) | * (*) | 7 (*) | 5 (3) | 0 | 13 |
| | Other | 19 | 3 (*) | 6 (*) | 15 (1) | 7 (*) | 1 (*) | 16 (2) | 8 (1) | 8 (1) | 16 (1) | 20 (1) | 5 (1) | 25 (*) | 30 (1) | * (*) | 20 (*) | 7 (1) | 10 (*) | 10 (3) | 3 (*) | 10 (*) | 11 (*) | 11 (8) | 0 | 32 |
| | Average Time Per Day | | 60 (1) | 65 (2) | 134 (2) | 86 (1) | 73 (2) | 76 (27) | 102 (2) | 104 (4) | 142 (8) | 149 (12) | 135 (3) | 121 (1) | 132 (13) | 94 (*) | 120 (1) | 116 (8) | 123 (5) | 99 (4) | 129 (3) | 69 (10) | 129 (2) | 109 (27) | 51 | 171 |

( ) = Standard Deviation

* = Less than 0.50 minutes

sample are displayed in the last three columns. On the average, a grade 2 student in the BTES spent 7 minutes a day in Addition and Subtraction Without Regrouping in the Standard Short Form (Table 13). The minimum daily mean for any one student in this category was 1 minute and the maximum was 25 minutes. This category along with the Computational Transfer category were the only content categories in Grade 2 mathematics where every student was allocated some time during the B-C period. The minimum value of zero for the remaining content categories are true zeros. That is, in each of these categories there was some student who throughout the B-C period had no recorded instruction in that content.

Proportion of Time Allocated to Content Across Classes. The allocated time data can also be viewed in terms of proportions rather than number of minutes allocated. Tables 17 through 20 show the proportion of total time allocated in each class to the specific content categories. These proportions were computed by dividing the mean total time in the B-C period per student per class in a specific content by the mean total time for mathematics (or reading). Using second grade mathematics as an example, the class means shown in Table 5 were used to compute the proportions listed in Table 17. In Class 01, 320 minutes were spent in the first content category (Table 5) representing 17 percent (Table 17) of the total time (1888 minutes) in mathematics.

The proportional data provides a rather concise instructional description for each of the classes. Using it in conjunction with the proportional data from the A-B period one can easily see a class's pattern of instruction throughout the year. For example, in second grade mathematics, Classes 06 and 16 spent a large proportion of B-C time on short form regrouping but had little if any time, in either A-B or B-C, in the conceptual areas of place value or regrouping with instructional algorithms. This is in

Table 17

Average Proportion of Total Time Allocated to Specific Content Areas

for the B-C Period in Grade 2 Mathematics

| | | CLASSES | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LOG CONTENT AREAS | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| COMPUTATION | Add/Subt No Regrouping Standard Short Form 1 | 17 | 11 | 8 | 12 | 34 | 25 | 15 | 38 | 24 | 11 | 25 | 12 | 10 | 10 | 9 | 14 | 6 | 22 | 28 | 32 | 9 | 29 | 28 | 10 | 8 |
| | Add/Subt No Regrouping Instructional Algorithm 2 | 2 | 9 | 5 | 5 | 8 | * | | 3 | | 1 | | 1 | 15 | 6 | 2 | 1 | | 2 | 13 | 3 | 7 | | | 8 | 3 |
| | Add/Subt With Regrouping Standard Short Form 3 | | 13 | 12 | * | | 24 | 33 | 7 | 16 | 3 | 6 | 5 | 17 | 8 | 8 | 37 | | 7 | 9 | 26 | 16 | | * | 26 | 16 |
| | Add/Subt With Regrouping Instructional Algorithm 4 | 20 | 16 | 21 | 1 | 2 | 2 | 4 | 4 | 19 | 31 | 14 | 16 | 15 | 9 | 14 | | 29 | 16 | 20 | 2 | 21 | * | 5 | 2 | 19 |
| | Speed Tests 5 | * | | 9 | 2 | 10 | 3 | * | 1 | 1 | | | * | 2 | * | 4 | 3 | | 5 | * | 2 | 1 | 4 | 2 | 2 | * |
| | Other Computation 6 | | * | 1 | 10 | | | * | 2 | 3 | 5 | | 1 | * | 3 | 7 | | 1 | 6 | * | | * | * | * | | 11 |
| CONCEPTS/APPLICATION | Computational Transfer 7 | 17 | 5 | 12 | 25 | 17 | 15 | 12 | 12 | 10 | 18 | 32 | 21 | 2 | 23 | 44 | 8 | 20 | 14 | 8 | 4 | 5 | 20 | 20 | 7 | 13 |
| | Place Value/Numerals 8 | 14 | 18 | 10 | 29 | 18 | * | 6 | 12 | 8 | 14 | 9 | 20 | 7 | 7 | 7 | 2 | 17 | 10 | 14 | 17 | 15 | 9 | 17 | 11 | 15 |
| | Word Problems 9 | 3 | 1 | 1 | 5 | 6 | 5 | 5 | 6 | * | * | 4 | 5 | 3 | 18 | * | 2 | 4 | 2 | 4 | 1 | 7 | 12 | 9 | 9 | 1 |
| | Money 10 | 15 | * | * | * | 5 | 4 | | 4 | 7 | * | 2 | 1 | 6 | 1 | | 16 | 4 | 1 | * | 4 | * | 7 | 6 | 6 | * |
| | Linear Measurement 11 | 5 | 5 | | 1 | | 2 | * | 3 | 1 | 2 | * | 3 | 5 | 10 | | | 4 | 2 | * | 1 | 6 | 3 | | 8 | 3 |
| | Fractions 12 | 3 | 1 | 5 | | | * | 13 | 2 | 3 | 4 | | 3 | 10 | 4 | | 1 | 2 | 6 | * | 2 | * | 2 | * | 2 | 4 |
| | Developmental Activities 13 | 1 | 3 | 3 | 3 | | 5 | | 3 | * | * | | * | 1 | * | 3 | 1 | | 2 | 1 | | 3 | 8 | 10 | * | 2 |
| | Other Concepts/ Application 14 | 2 | 16 | 13 | 5 | | 13 | 11 | 1 | 7 | 10 | 9 | 11 | 7 | * | * | 14 | 12 | 5 | * | 7 | 9 | 5 | 2 | 8 | 5 |

* = Less than 1 percent

Table 18

Proportion of Total Time Allocated to Specific Content Areas

for the B-C Period in Grade 2 Reading

CLASSES

| | LOG CONTENT AREAS | | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DECODING | Single consonants | 1 | * | 1 | 4 | 1 | 1 | * | 2 | 2 | * | 2 | 4 | 3 | * | 2 | 3 | 2 | 2 | * | | * | 1 | 1 | 3 | 1 | 2 |
| | Consonant blends & digraphs | 2 | 2 | 7 | 3 | 1 | 9 | 1 | 3 | 2 | 2 | 2 | 2 | 5 | 1 | 4 | 2 | 3 | 2 | 4 | * | * | 1 | 1 | 1 | 5 | 3 |
| | Variant consonants (c or g) | 3 | * | * | * | * | * | * | * | * | 2 | * | * | * | * | * | * | * | | * | 1 | * | 5 | 1 | * | * | 2 |
| | Short vowels | 4 | 2 | 2 | 2 | 3 | 4 | 12 | 1 | 1 | * | 2 | 2 | 5 | 2 | 5 | 6 | 1 | 1 | 3 | 3 | 1 | 5 | 1 | 2 | 2 | 2 |
| | Long vowels | 5 | 1 | 6 | 5 | 2 | 5 | 1 | 1 | 1 | 3 | 2 | 3 | 6 | | 1 | 6 | 2 | 4 | 2 | 3 | 2 | 2 | * | 2 | 1 | 2 |
| | Other decoding | 6 | * | 3 | 4 | 1 | 15 | * | 2 | 8 | 5 | 2 | 3 | * | * | 3 | 1 | 1 | 2 | 2 | 1 | 4 | 6 | 9 | 7 | 4 | 4 |
| WORD STRUCTURE | Compound words | 7 | * | * | * | * | * | * | 1 | * | * | * | * | 3 | | 1 | * | * | * | 1 | | 2 | 3 | 3 | 1 | 3 | 3 |
| | Root words and affixes | 8 | 2 | 3 | 2 | * | 7 | * | 2 | 5 | 3 | 5 | 5 | 5 | * | 4 | 3 | 4 | * | 2 | | 3 | 6 | 2 | 2 | 1 | 5 |
| | Syllables | 9 | * | * | * | 1 | * | | 3 | * | 1 | 3 | 2 | 2 | * | 3 | 2 | * | * | * | | * | | * | * | * | 2 |
| WORD MEANING | Synonyms | 10 | * | * | * | * | * | * | 1 | * | 1 | * | 1 | * | | * | 3 | | * | * | * | * | * | 3 | 2 | 2 | * |
| | Pronoun reference | 11 | * | * | 2 | * | * | | * | * | * | | | * | | * | 2 | | * | * | | | | | | | * |
| | Other word meaning | 12 | 7 | 3 | 13 | * | 7 | * | 12 | 10 | 13 | 5 | 11 | 2 | 1 | 1 | 6 | 5 | 5 | 9 | 8 | 4 | 4 | 6 | 10 | 7 | 4 |
| COMPREHENSION | Understanding events | 13 | 2 | 3 | 4 | 6 | 3 | 3 | 3 | 3 | * | 3 | 3 | 9 | 9 | 5 | 5 | 2 | 3 | 3 | 10 | 7 | 4 | 7 | 12 | 3 | 2 |
| | Understanding relationships | 14 | 4 | 3 | 6 | 3 | 1 | 4 | 2 | 3 | * | 3 | 2 | 2 | 1 | 4 | 3 | * | 3 | 3 | 8 | 1 | 4 | * | 1 | * | 2 |
| | Identifying main ideas | 15 | * | * | 3 | 2 | * | 1 | * | 7 | * | 4 | | 2 | 1 | 2 | 3 | 2 | 2 | 2 | 4 | * | 4 | * | * | 1 | * |
| | Other comprehension | 16 | 2 | 8 | 3 | 3 | 1 | * | 4 | 4 | 5 | 2 | 3 | 1 | * | 2 | 5 | 1 | 4 | 7 | * | 2 | * | 2 | * | 3 | 2 |
| READING PRACTICE | Sight words (reading single words) | 17 | 6 | * | 2 | 15 | 4 | 6 | 2 | 5 | * | 4 | 3 | 7 | 10 | 3 | 13 | 2 | 3 | 1 | 2 | 6 | 9 | 1 | 1 | 4 | 8 |
| | Oral reading of text | 18 | 5 | 9 | 4 | 5 | 8 | 13 | 5 | 5 | 14 | 14 | 5 | 11 | 11 | 2 | 4 | 5 | 8 | 11 | 4 | 8 | * | 5 | 6 | 11 | 17 |
| | Silent reading of text | 19 | 15 | 3 | 8 | 8 | 3 | 5 | 4 | 6 | 16 | 20 | 9 | 2 | 4 | 6 | 8 | 6 | 6 | 8 | 15 | 18 | 5 | 23 | 16 | 10 | 2 |
| | Reading in content areas | 20 | * | * | 6 | | * | * | 7 | 2 | * | 2 | 4 | * | 3 | 8 | 3 | | 6 | * | * | * | 1 | 4 | * | | * | 3 |
| | Listening while reading | 21 | 1 | * | 1 | 4 | * | 1 | 2 | * | 1 | 2 | * | 2 | * | * | 4 | | | 2 | 7 | 3 | 4 | * | * | 3 | * |
| READING RELATED | Spelling (no specific decoding focus) | 22 | 5 | 3 | * | 3 | 9 | * | 3 | 10 | 1 | 8 | 11 | 11 | 14 | 3 | 5 | 9 | 14 | 8 | 3 | 6 | 1 | 3 | * | 8 | 7 |
| | Grammar | 23 | 5 | 7 | 3 | * | 1 | 3 | 8 | 8 | 3 | 1 | 6 | 7 | 9 | 8 | 1 | 2 | 16 | 3 | 1 | 4 | 1 | [illegible] | [illegible] | 3 | 4 |
| | Creative writing | 24 | 15 | 15 | 8 | 3 | 8 | 5 | 11 | 5 | 3 | 2 | 10 | 3 | 11 | 3 | 2 | 10 | 5 | 6 | 10 | 10 | 5 | 10 | 8 | 11 | 6 |
| | Study skills | 25 | 3 | 8 | * | 3 | * | | * | 3 | 4 | 4 | * | * | 5 | 6 | 2 | | 4 | 4 | * | 1 | 3 | 5 | 8 | 5 | 11 |
| | Other (copying, developmental) | 26 | 20 | 14 | 1[illegible] | 33 | 11 | 43 | 13 | 4 | 19 | 7 | 8 | 9 | 13 | 20 | 8 | 43 | 10 | 16 | 18 | 14 | 21 | 9 | 11 | 12 | 5 |

Table 19

Average Proportion of Total Time Allocated to Specific Content Areas

for the B-C Period in Grade 5 Mathematics

| | | | CLASSES | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LOG CONTENT ARES | | 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 |
| COMPUTATION | Addition | 1 | 3 | 2 | 8 | 1 | 12 | 9 | 2 | 1 | * | * | 2 | * | 5 | * | * | * | * | | 4 | | 2 |
| | Subtraction | 2 | 2 | 2 | 4 | 1 | 12 | 13 | 2 | 1 | * | * | 5 | 2 | 3 | * | 5 | * | * | | 3 | | 2 |
| | Multiplication: Basic Facts | 3 | * | 3 | 3 | | 2 | * | | | * | * | * | 2 | * | 2 | 17 | * | | * | * | | |
| | Speed Tests | 4 | * | * | 2 | 3 | * | 2 | | | 1 | | * | 2 | 5 | * | * | * | * | * | | 4 | |
| | Algorithm | 5 | 2 | 19 | 44 | 6 | 12 | 23 | 4 | 7 | 6 | 6 | 8 | 26 | 31 | 3 | 26 | 65 | 1 | * | 10 | * | 4 |
| | Division | 6 | 29 | 20 | * | 19 | 12 | 13 | 37 | 36 | 22 | 20 | 28 | 45 | 43 | 33 | 23 | 14 | 4 | * | 29 | 30 | 8 |
| | Fractions | 7 | 17 | 5 | 18 | 36 | 6 | 25 | 36 | 16 | 49 | 53 | 11 | 25 | 3 | 52 | | 12 | 45 | 27 | 2 | 47 | 57 |
| | Other | 8 | 2 | | 2 | * | 13 | 4 | * | 1 | * | * | 5 | * | | | | * | 4 | 21 | 31 | | 7 |
| CONCEPTS/APPLICATION | Computational Transfer | 9 | 24 | | 1 | 7 | 2 | | 12 | 17 | 11 | 13 | * | 7 | | * | 2 | * | 1 | 4 | 2 | 6 | 4 |
| | Numerals/Place Value (whole numbers) | 10 | * | | | * | * | | 1 | * | 1 | 1 | * | | | | | * | * | * | | | 2 |
| | Word Problems | 11 | 3 | | | 18 | 16 | | 4 | | 3 | 2 | 7 | 3 | 1 | * | 24 | 2 | 9 | * | 13 | 10 | 2 |
| | Geometry: Perimeter | 12 | 1 | | 3 | 2 | 4 | | | | * | * | * | 2 | | | | * | * | | | * | * |
| | Area | 13 | 3 | | 5 | 2 | * | | | | * | * | * | 4 | | | | * | * | | | | 1 |
| | Number Pairs | 14 | 5 | | 2 | 1 | | | | | * | * | | | * | | | | | | | | * |
| | Lines or Figures | 15 | 6 | 35 | 4 | * | * | | | 13 | 2 | * | * | 1 | | 7 | 2 | | 1 | 1 | | 2 | * |
| | Other | 16 | 1 | 15 | 3 | 1 | 7 | 13 | 2 | 6 | 1 | * | 31 | * | 9 | 1 | | 2 | 33 | 44 | 4 | | 8 |

1 = Less than 1 percent

Table 20

Proportion of Total Time Allocated to Specific Content Areas

for the B-C Period in Grade 5 Reading

| | LOG CONTENT AREAS | | CLASSES 01 | 03 | 04 | 05 | 06 | 08 | 09 | 10 | 11 | 12 | 14 | 16 | 17 | 18 | 19 | 21 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WORD STRUCTURE | Root words and affixes | 1 | 4 | 2 | 2 | 2 | 3 | * | 3 | 3 | * | * | * | * | 1 | 7 | | 2 | 1 | * | 1 | * | 2 |
| | Syllables | 2 | * | 1 | * | 1 | 3 | * | 3 | 3 | * | * | 5 | 2 | * | 2 | * | * | 1 | 2 | 2 | * | 2 |
| WORD MEANING | Synonyms | 3 | 2 | * | * | 2 | 2 | | | * | * | * | * | * | * | * | * | 1 | * | * | * | | 1 |
| | Pronoun reference | 4 | | | 3 | * | 1 | * | * | * | | | 1 | * | * | * | * | * | * | | * | | * |
| | Other word meaning | 5 | 8 | 15 | 3 | 8 | 8 | 5 | 10 | 10 | 9 | 6 | 11 | 2 | 6 | * | 7 | 7 | 7 | 10 | 9 | 15 | 8 |
| COMPREHENSION | Verbatim (no rephrasing) | 6 | 3 | 6 | * | 2 | * | | 1 | 2 | 2 | * | * | * | 6 | 12 | * | 8 | * | 2 | 4 | * | 3 |
| | Translation (paraphras) | 7 | 2 | 3 | * | 3 | * | | 2 | 3 | 12 | * | 8 | 2 | 5 | 1 | 12 | 10 | 3 | 8 | 5 | 5 | 2 |
| | Inference/Synthesis | 8 | 4 | 4 | | 1 | 2 | * | 4 | 4 | 12 | 3 | 2 | * | 4 | 3 | 2 | 9 | 2 | * | 4 | 5 | 4 |
| | Identifying main ideas | 9 | 3 | 4 | 3 | 6 | 9 | * | 6 | 6 | 7 | 37 | 3 | 2 | 1 | 2 | 5 | * | 9 | 1 | 4 | 3 | 4 |
| | Evaluation of fact and opinion | 10 | * | | * | 2 | 2 | * | * | * | * | 1 | * | * | * | * | * | * | * | * | * | 1 | 1 |
| | Other comprehension | 11 | 3 | 7 | 4 | 4 | * | 9 | 4 | 3 | 11 | 3 | 2 | 5 | * | 3 | 6 | 1 | 5 | 2 | 2 | * | 6 |
| READING PRACTICE | Oral reading | 12 | 11 | * | 2 | 5 | 3 | * | 3 | 2 | 8 | 3 | 8 | 4 | 5 | 6 | 1 | 7 | * | 1 | 3 | | 7 |
| | Silent reading | 13 | 18 | 12 | 15 | 24 | 27 | 15 | 13 | 13 | 8 | 4 | 14 | 11 | 20 | 17 | 15 | 12 | 32 | 25 | 37 | 28 | 15 |
| | Reading in content areas | 14 | 8 | 4 | 19 | 7 | 2 | 3 | 9 | 9 | 3 | * | 7 | 26 | * | 3 | 4 | 10 | 11 | 1 | 3 | 3 | |
| READING RELATED | Spelling | 15 | 12 | 12 | 19 | 11 | 17 | 17 | 16 | 17 | 5 | 10 | 17 | 7 | 15 | 20 | 14 | 10 | 10 | 19 | 8 | 16 | 9 |
| | Grammar | 16 | 5 | 1 | 5 | 9 | 11 | 20 | 8 | 9 | 7 | 12 | 14 | 11 | 3 | 2 | 10 | 9 | 2 | 5 | 7 | 1 | 13 |
| | Creative writing | 17 | 1 | 6 | 7 | 2 | 5 | 7 | 3 | 3 | * | 3 | 1 | 2 | 3 | 9 | 3 | * | 2 | 5 | 5 | 5 | 7 |
| | Study skills | 18 | 10 | 13 | 4 | 4 | 3 | 1 | 5 | 5 | 2 | 3 | 3 | 2 | 3 | 11 | 3 | 5 | 3 | 5 | 1 | * | 5 |
| | Other | 19 | 5 | 9 | 13 | 8 | * | 21 | 8 | 8 | 11 | 13 | 3 | 21 | 23 | * | 17 | 6 | 8 | 10 | 2 | 15 | 9 |

* = Less than 1 percent

contrast to the other classes which, if they got to short from regrouping, also covered either the instructional algorithms or place value and frequently both. The instructional pattern for Classes 01 and 17 was almost the inverse of Classes 06 and 16, in that, they emphasized the conceptual areas but never got to short form regrouping.

Summary

This report provides descriptive data on allocated time in reading and mathematics for grades 2 and 5 as reported by the participating BTES teachers during the B-C period and forms an addendum to Technical Note IV-2a which reported allocated time for the A-B period. On the average the B-C period included 77 school days per class which was triple the length of the A-B period. Log data were received for over 98 percent of the second grade and 96 percent of the fifth grade school days. All of the 46 classes which began the B-C period completed the B-C period although in a few cases the teacher configuration for those classes changed.

Class means are provided on the amount of time accumulated over the B-C period in specific content categories. Daily means and the mean percent of total time allocated to specific content areas are also presented.

## References

Dishaw, M. Descriptions of allocated time to content areas for the A-B period (Technical Note IV-2a, Beginning Teacher Evaluation Study). San Francisco: Far West Laboratory, 1977.